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PART I.

ORIGINAL COMMUNICATIONS.

ART. XII.—*Eight Cases of Ovariotomy. With Remarks on the means of diminishing the Mortality after this Operation.* By T. SPENCER WELLS, F. R. C. S., Lecturer on Surgery at the Grosvenor-place School of Medicine; Surgeon to the Samaritan Hospital, &c.

AN impression appears to prevail that some of the advocates of ovariotomy have published their successful cases, and have not published those which have terminated fatally. I therefore state at once that the eight cases which form the subject of the present paper are the only cases in which I have performed this operation. In one other case I made an exploratory incision, and did not proceed with the operation; but, as the progress of the disease was not affected by this incision, which healed without any ill effects upon the patient, who died four months afterwards, from spontaneous rupture of the cyst into the peritoneal cavity, it would not be right to include that case in the list of ovariotomy operations. I allude to it here, however, as I made the exploratory incision in December, 1857; and I believe that this, and a case I saw some months before with Dr. Snow Beck, where iodine was subsequently injected, were the first cases in which it was proposed to divide the pedicle of an

ovarian tumour by means of the écraseur. I had long regarded the ligature on the peduncle, and the sloughing of the stump within the abdominal cavity, as one of the most frequent causes of death after ovariotomy. In cases where the peduncle is long, this danger can be avoided by fixing the stump outside the wound; but where the peduncle is short, the écraseur offers evident advantages. It was used in America, soon after the publication of my suggestion, by Dr. Atlee, who, on the 23rd of March, 1858, separated a pedicle one inch in length by four in breadth, in a lady sixty-one years of age, without loss of blood, and the result of the operation was completely successful. The practice has been followed up in America, for Dr. Pope relates four cases of ovariotomy in the St. Louis Medical and Surgical Journal for January, 1859, in two of which the écraseur was used to divide the pedicle.

I now propose to offer a short account of the eight cases in which I have performed ovariotomy, appending a few remarks to each case, and then make some suggestions as to the means of diminishing the mortality after this operation.

Case I.—*Multilocular Ovarian Cyst, tapped seven times; twice injected with Iodine; rapid increase; Ovariotomy; perfect Recovery.*

A single woman, twenty-nine years of age, was admitted under my care into the Samaritan Hospital, on the 9th of February, 1858. She had been a general servant, and was in good health up to the age of twenty-one; she then began to complain of pain low down in the left side, extending to the loins; but she did not discover any tumour until five years later. The tumour increased gradually for a year, and, two years before she came under my care, she was admitted into Guy's Hospital, under the late Dr. Lever, and tapped. After six months she was readmitted, and tapped again; and a third time, after an interval of thirteen weeks. She went to Lambeth Workhouse in June, 1857, and was tapped there four times by Mr. Bullen, at intervals of about two months: the fluid discharged each time averaging about two gallons. Undiluted tincture of iodine was injected twice, but without the slightest benefit; on the contrary, the cyst appeared to fill faster than before.

On admission to the Samaritan Hospital it was evident that her health was rapidly giving way under this repeated accumulation and discharge of two gallons of fluid; but as she was cheerful, her constitutional power moderately good, and she earnestly desired to be relieved, at any risk, of a disease which made her life miserable, I decided, after consultation with my

colleagues, to extirpate the tumour. I performed the operation on the 19th of February, 1858. I first made an incision three inches long in the linea alba, carrying it downwards from an inch below the umbilicus, and thus exposed the cyst, which was adherent to the parietes. After separating some of these adhesions, I emptied the principal cyst through a large trocar. Several secondary cysts were then felt, and the adhesions to the abdominal walls on either side were also found to be very firm and extensive. Some doubt was here expressed as to the propriety of proceeding further, but I felt that it would be more dangerous to stop than to proceed, and accordingly broke down some very firm and extensive adhesions by passing the hand between the abdominal wall and the cyst. In this stage Mr. Baker Brown, who was present, afforded zealous assistance. A slighter adhesion of the upper part of the cyst to the omentum was also broken down by the hand. The peduncle was on the left side, and of the breadth of three fingers. I transfixed it in two places, and tied it in three portions by whipcord ligature. The peduncle was so short that it could not be fastened in the wound. The right ovary was examined, and found to be healthy. The ligature passed through the lower part of the wound, and was carefully fixed to the skin by adhesive plaster. The edges and sides of the wound were brought accurately together by superficial and deep silk sutures, and the abdomen supported by a broad flannel bandage. The patient was under the influence of chloroform for forty minutes. She suffered from nausea and vomiting during the two following days, due, it appeared, rather to the chloroform than to the operation; or, perhaps, to the opium, which was given from the first to keep her free from pain. She had no sign of peritonitis at any time, but suffered a good deal from flatulence; and the pulse was very rapid and feeble for many days. Wine was given freely from the first. There was a very copious fetid sero-purulent discharge from the abdomen, through the portions of the wound kept open by the ligature on the peduncle: on two or three occasions, when the opening became plugged accidentally, the patient complained of a good deal of pain, and became feverish, but immediate relief was afforded by a free discharge of fluid after cleaning the ligature. The wound united by first intention, except for about half an inch where the ligature passed. The bowels were not open until the tenth day, when they moved spontaneously. The ligature around the peduncle came away on the twelfth day, with a large slough attached to it. From this time the patient gradually improved. She became an under-nurse at the hospital; and in the autumn became the sole and general

servant in a twelve-roomed house. Here she remained until early this year, doing a great deal of hard work, when she was induced to emigrate to Australia. Just before she embarked, Dr. West kindly examined her for me, on the 25th of January, 1859, and wrote as follows:—"As your patient was menstruating, I could not make any vaginal examination; but through the abdominal walls there is no trace of tumour perceptible; and there can be no doubt but that the case has been a complete success."

The cyst weighed, with its contents, twenty-six pounds The contents consisted of the ordinary viscid fluid, containing many granular cells. The principal cyst formed the upper part of the tumour. The lower part consisted of a number of smaller cysts, which had filled the pelvic cavity, and were moulded to its form. Most of the cysts appeared to have been developed independently of the principal cavity, and independently of each other; small scattered cysts may be seen in different parts of the largest cavity, but these are all developed in the substance of the fibrous wall, and were covered by the serous layer extended over the largest cyst.

Remarks.—Looking to the strong fibrous partitions between the principal and the smaller cysts composing this tumour, it is quite evident that no fluid injected into the large cyst could reach the smaller cysts. Hence the important practical deduction, that success can only be reasonably hoped for from iodine injections, when an ovarian cyst is simple or unilocular.

CASE II.—*Multilocular Ovarian Cyst, tapped three times; Ovariotomy; adhesions to Liver; perfect Recovery.*

A married woman, thirty-eight years of age, was sent to me in July, 1858, by Mr. Ottaway, of Dover. She was married in 1851, and has had three children, but no miscarriage. She was in good health up to the birth of her last child, two years and four months before I saw her. She then noticed that the abdomen did not diminish in size so much as after her previous confinements; she could not say when she first perceived any distinct tumour, but the swelling of the abdomen gradually increased after her confinement, until March, 1858, when Mr. Ottaway tapped her, and removed eighteen quarts of clear, thin fluid. The sac filled again rapidly, and Mr. Ottaway tapped a second time early in June, removing seventeen quarts of a thicker fluid. It was six weeks after this tapping when she came to town, and she was then becoming oppressed by the quantity of fluid. The catamenia had been generally regular, but had

not appeared for eleven weeks until the day she came to town. Owing to repairs going on at the hospital, it was impossible to admit her, and, as she became much distressed in her breathing by the rapid accumulation of fluid, I tapped her at her lodging, on the 15th of July, and removed fourteen quarts of thick fluid. When the sac was empty, I felt some small outgrowths from its right wall: they were attached to the abdominal parietes.

The sac refilled rapidly, and, as her general health was pretty good, although she was suffering from the rapid accumulation of fluid in the cyst, and was very desirous of having the cyst removed, although the danger of the operation was fairly put before her, I performed it, after consultation with my colleagues, on the 11th of August, 1858. As I was very anxious to avoid vomiting after the operation, she took ice for two hours before it; and Dr. Richardson administered a mixture of one part of chloroform to six parts of ether instead of pure chloroform. I had hoped to be able to complete the operation by a small incision, but the separation of the cyst from its attachments was rendered difficult by adhesions between the cysts and its coverings,—so intimate that it was not easy to make out the exact line of separation between them,—and it was only after enlarging the incision and cutting into the cyst, that this could be made out accurately. Then the irregular outgrowths from the right wall of the cyst just alluded to were found to consist of an aggregation of small multilocular cysts, which were firmly attached to the under surface of the liver and the coats of the gall-bladder, and it was, of course, necessary to be extremely careful in completing the separation. The peduncle was tied by strong twine, in four separate portions, each the breadth of a finger, and the portion left was long enough to be fixed between the edges of the wound. The wound was carefully closed by hare-lip pins, the lowest pin transfixing both edges of the wound and the peduncle, so as to prevent its sinking into the abdomen. The cyst weighed one pound five ounces, and the contents twenty-nine pounds ten ounces.

The patient slept well at night, and, on the day after the operation, said she did not feel so ill as she had been after her labours. A one-grain opium pill had been given every three hours, but, on account of nausea and occasional vomiting, a morphia suppository was substituted for the pills. The urine was removed by the catheter thrice daily.

On the third day a spontaneous diarrhœa set in, but soon subsided. The wound united by the first intention; the pulse

ranged from 120 to 140 until the eighth day, when it was down to 100 for the first time; she then sat up in bed, and did some needle-work.

On the ninth day the peduncle had completely sloughed through, except at one spot, which I secured by a fresh ligature, and removed the old one with the slough. She only had a suppository twice a day at this time.

The new ligature on the remnant of the peduncle came away on the tenth day, and from this time she rapidly regained strength; the wound soon closed, and she left the hospital three weeks from the day of operation.

Mr. Ottaway, of Dover, saw her on the 2nd of February, 1859, and, in a letter to me, says, he "found her over the wash-tub, where she had been all day." He adds: "She tells me that she is 'as well as ever she was in her life, and much better than she has been for many years past;' that 'she does the whole of her household work, and minds her children without help; that she occasionally walks to St. Margaret's Bay and back, a distance of seven miles, without unusual fatigue; and, in fine, that she could not wish to be better.' She looks cheerful and animated, and, from being a sallow, emaciated, unhealthy-looking being, has now the appearance of a person in robust health, muscular and strong. She has menstruated fairly only once since she left the hospital. At the beginning of November she had an appearance, for a day only; since that time, not at all; and as the mammæ are becoming more full, attention will be directed to the possibility of her being pregnant," an event not at all impossible, as many cases are recorded where women have borne several children after the extirpation of an ovary.

CASE III.—*Ovarian Tumour and Ascites; removal of a Tumour weighing twenty-one pounds, and fifty-seven pounds of Ascitic Fluid; Recovery.*

A married woman, aged 33, was admitted under my care, in the Samaritan Hospital, on the 1st of November, 1858. She was married ten years before, and had four children, and one miscarriage between the first and second child; the youngest child was three years old, and all her children were living. She was quite well up to her last labour, but did not diminish in size after it. Two months afterwards she began to complain of pain just above the symphysis pubis; and about a year ago first felt a hard movable tumour in this situation. Rapid increase followed. The catamenia had been regular,

though scanty, up to the end of May; since then they had ceased.

On admission she appeared extremely weak and much emaciated. She was fifty-seven inches in girth at the umbilicus, and thirty inches from the ensiform cartilage to the symphysis pubis. She could only sleep in a sitting posture. The heart and liver were displaced upwards; the skin of the abdomen was fissured, and marked by large veins and varicose lymphatics; the enlargement was quite equal on both sides, and there was the bulging outwards of the flanks characteristic of ascites; perfect fluctuation was felt equally in all directions over the abdomen; the abdomen was generally dull on percussion, but a clear note showed that the stomach and intestines were lying in the epigastric and right lumbar regions principally, and also in the left lumbar region. The situation of dull and clear sound was not altered by any position of the patient. No tumour could be felt by the deepest pressure the patient could bear. The anterior wall of the vagina was depressed; the uterus admitted the sound for three inches, but the organ was not so freely movable as in the normal state. It was felt to be impossible to say positively if there was ascites (with distention so great that the intestines could not reach the abdominal wall, or were bound down by adhesions), or a large simple ovarian cyst; but, taking the positive statement of the woman as to the previous existence of a hard movable tumour, the most probable supposition was, that an ovarian tumour was surrounded by a large quantity of ascitic fluid. As the line of clear sound on percussion in the epigastrium descended about an inch and a half on full inspiration, it also appeared probable that any tumour was unattached anteriorly.

As the woman placed herself entirely in my hands, after the danger of the operation had been explained to her, I decided, after consultation with my colleagues, to make an exploratory puncture, evacuate the fluid, and then, having everything prepared for ovariotomy, perform it or not according to circumstances.

On the 5th of November, accordingly, after the usual preparations, and chloroform having been administered by Dr. Priestley, I drew off fifty-seven pints of thin, turbid serum. A very irregular lobulated tumour was then felt; on exposure and puncture by the trocar, its contents were found to be too thick and glutinous to escape, even when an incision was made into it. It became necessary, therefore, to enlarge the incision sufficiently to admit of the removal of the tumour entire. This was done, and the incision then reached from about an inch

above the symphysis pubis to two inches above the umbilicus. Superiorly and posteriorly there were adhesions to the omentum and small intestines. These were easily broken down; but one around the brim of the pelvis was separated with more difficulty. The peduncle was on the left side, very short and broad; it was secured between the blades of a metal clamp, and the tumour was then cut away. There was then very considerable hemorrhage, which at first appeared to come from one end of the peduncle; but, after securing this by a ligature, the bleeding was still unchecked and alarming, and the source was discovered to be a rent in a very large vein on the right side, running along the brim of the pelvis. I caught the sides of the rent with a toothed forceps, and put on a lateral ligature, so as to stop the hemorrhage without also stopping the current of blood in the vein. The abdomen and pelvis were then carefully sponged clean of blood. The right ovary was examined and found to be healthy. The wound was brought together by nine hare-lip pins and twisted suture; the peduncle and clamp being kept outside the wound.

The progress of the case, after operation, was almost uninterruptedly one of recovery. There was neither pain, thirst, nor sickness; the chief complaint was of flatulence; the pulse ranged from 120 to 130 for a fortnight, and then gradually sank to 110 and 100; the pins were removed on the fifth day, and the wound was found quite healed, except at the spot where the peduncle and ligature passed; the clamp came away on the eighth day, and the ligature on the vein on the ninth; on the tenth day the bowels acted three time after an enema of warm water. From this time she rapidly gained strength, and left the hospital exactly four weeks after the operation, the heart and liver having returned to their normal situations.

The treatment consisted in the use of morphia suppositories, and of sufficient nourishment and stimulants; no medicine was given by the mouth: a third of a grain of morphia was given in suppository at first, three times a day, afterwards only twice, and it was discontinued after a fortnight. The urine was removed by the catheter three times a day for the first week, but she passed it easily as soon as the bowels were open.

The tumour, as removed, some two or three pints of its contents having been previously emptied, weighed twenty-one pounds. The external capsule was firm, fibrous, and very vascular; section showed an immense number of imperfect cysts or alveolar cavities, from the size of a pea to that of a small apple, and one large cyst which had contained from two to three pints of viscid fluid. The walls of the cyst and alveoli

were very vascular, enclosing a semi-opaque, jelly-like substance, varying in colour from white to dark chocolate in different places, and in consistence from that of firm jelly to that of white of egg. By a little pressure this matter was made to exude easily from the divided cavities. Thus the tumour might be described as a fibrous net-work, forming irregular cavities containing gelatinous matter. After maceration and squeezing out the contents, the septa were seen to form very imperfect separations between the cavities, and the skeleton of the growth was so far identical with that of colloid or alveolar cancer. Microscopical examination of the viscid, tenacious contents led to the belief that it was not true colloid. A great abundance of molecular matter was seen with free nuclei, and small oval or rounded cells, about the diameter of blood corpuscles; also numerous large granular corpuscles, from two to three times the diameter of blood corpuscles, and an abundance of oil globules. It is a question, however, whether the distinction between the compound ovarian cyst (or multilocular ovarian tumour, or pseudo-colloid disease of the ovary) and true colloid disease, is as well made out by any observation of minute structural difference as in the clinical history; especially in the important fact that the former disease shows no tendency either to reproduction in distant parts of the system or to contaminate neighbouring parts or glands.

This patient has been heard of several times since she returned home, and the accounts were for some time most favourable. Mr. Jardine, of Capel, near Dorking, who sent her to me, wrote, on the 3rd of February, 1859, saying that he had not seen her lately, as she had gone twenty miles off for a week or two, but he adds, "her husband tells me that she is getting stout, and has very good health. She was weighed three weeks ago, and had gained fifteen pounds since leaving the hospital." She continued strong and robust until the summer, when she began to suffer from some intestinal obstruction.

Case IV.—*Multilocular Ovarian Tumour; Ovariotomy; Death thirty-two hours afterwards.*

A single woman, thirty-nine years of age, was admitted under my care to the Samaritan Hospital, on the 4th of January, 1859. She had been quite well until between two and three years before. In the autumn of 1856 she first began to complain of pain in the left groin. This increased, but she did not notice any swelling until May, 1857, when a tumour was discovered on that side, which had steadily increased in size up

to the time I saw her. She was always "regular" before this, and up to the end of 1857, when the catamenia ceased, and have not appeared since. In October, 1858, she had some temporary œdema of the legs, and the growth of the tumour has been more rapid since. She has lost flesh lately, and is somewhat emaciated, but the complexion is healthy; she suffers a good deal at times from pain in the abdomen and flatulence, and is very breathless on any exertion; otherwise in pretty good health. The abdomen was filled by a large tumour, reaching from the pubes to half-way between the umbilicus and cruciform cartilage. Below the umbilicus it was divided by a sulcus which gave the impression of their being two tumours, and, of the gentlemen who examined the case with me, about half inclined to the belief of there being two, and the remainder thought there was no evidence of there being more than one multilocular tumour. Fluctuation was distinct, but limited to several small spaces. The fact of the catamenia having entirely ceased for a year was thought to favour the view of both ovaries being diseased. Vaginal examination showed that the uterus was atrophied, and somewhat raised from its natural position. As she was very short-breathed at times, Dr. Graily Hewitt examined the chest, and reported the heart to be healthy, and the lungs also, but that the right lung was compressed considerably by the elevation of the liver and diaphragm.

Taking into consideration the rapid growth of the tumour, its multilocular character, its effects upon the general health, and the hopelessness of any other mode of treatment, I decided, after consultation, to agree to the earnest wish of the patient to have the tumour removed, a wish expressed after full explanation of the dangerous nature of the operation. It was delayed for ten days on account of an eruption of herpes on one side of the chest, but, when this had disappeared, I performed the operation on the 21st of January, 1859, precisely as in the former cases, and after the same preparations. There were no adhesions, nor any fluid in the peritoneal cavity, but from one to two pints of viscid fluid flowed from a very thin-walled cyst, which was lying close to the linea alba. The incision extended from two inches above the symphysis pubis to the same distance above the umbilicus, as the contents of the cysts were too viscid to be taken away, and it was necessary to remove the tumour entire. The peduncle was little more than an inch in length, and of about three fingers' breath. I enclosed it in a clamp, and screwed this as tightly as possible, but, after cutting away the tumour, one end of the cut pe-

duncle slipped from the clamp, and I was obliged to transfix it, and tie in two portions to stop rather a free hemorrhage. Some delay was thus occasioned, and a few ounces of blood were lost. It was also necessary to tie a vessel in a small piece of omentum, which had adhered to the cyst. The peritoneal cavity was thoroughly cleaned from all blood, and the edges of the wound brought together by gilded hare-lip pins. One of these pins happened to transfix a small vessel, and it was also necessary to tie this on both sides of the wound. The peduncle was fixed outside the wound, although not without some tension, and the clamp was then used to prevent any danger from its slipping within the abdomen. The patient had been kept under the influence of chloroform. Her pulse was a very good one at 100 when the operation was concluded. About an hour afterwards, when the influence of the chloroform had subsided, she began to complain of some pain in the abdomen, and a suppository containing one-third of a grain of acetate of morphia was passed into the rectum. The pain continued about an hour, two other suppositories being given at intervals of half an hour. The pain was then relieved, but not entirely so, and a fourth suppository was given after another hour; she then seemed inclined to sleep. The tongue was clean and moist; pulse 104, and soft. Half an ounce of brandy was then given in water. She was refreshed by some sleep, but as she was not quite easy, and the pulse was up to 112, a fifth suppository was given at half-past 9 o'clock; at 11 o'clock the pulse was 130; skin and tongue moist; six ounces of urine removed by the catheter. There had been no sickness since the operation, and I left general directions to repeat the suppository when pain or restlessness rendered it necessary.

I saw her at 9 o'clock A. M. on the next morning, when the report was that she had had no pain, but did not sleep, and a sixth suppository was given at midnight. After this she had passed a very comfortable night, sleeping soundly from 2 in the morning. She complained neither of pain nor sickness, though there was considerable distention of the intestines by flatus. The countenance was very cheerful; but only four ounces of urine were removed from the bladder on using the catheter. Pulse 124, soft. She took her breakfast with appetite, and then a seventh suppository was given. She was remarkably well all the forenoon; took some beef-tea with good appetite; said she felt very comfortable, flatulence being the only source of discomfort. With a view of keeping her comfortable, and preventing any return of pain, another suppository, the eighth, was given at noon, but it afterwards ap-

peared that only about half of this had passed from the tube by which it was administered. I saw her at 4 o'clock P. M.; she was then apparently doing well, but I thought the pulse was rather feeble, and there was a slight appearance of anxiety about the eye-brows, and the flatulence was still troublesome. An aromatic draught, with twenty minims of chloric ether, was given, and she asked for some tea and drank it, and then, in about half an hour, suddenly went off into collapse, the pulse becoming almost imperceptible, the skin bathed in profuse perspiration, the breathing stertorous, pupils contracted, and on passing the catheter it was found that no urine had been secreted since the morning. Brandy and ether were thrown into the rectum, as she was incapable of swallowing; but she never rallied, and died thirty-two hours after the operation.

Dr. Aitken kindly made an examination of the body for me, twelve hours after death. He reflected the anterior abdominal wall over the thighs, thus exposing to view the peritoneal aspect of the wound, the intestines, and the omentum. About the middle of the wound the metallic surfaces of three of the sutures were visible, crossing the incision, so that during life they must have been in contact with the peritoneal surface of the intestine. The bowels were greatly distended with gas, and this distention, doubtless, had the effect of separating still more the peritoneal edges of the wound. Dr. Aitken adds: "The parietal peritoneum in the immediate vicinity of the wound was dotted over with spots of hemorrhagic congestion; and recent lymph was abundantly effused on the surface of the peritoneum. The lymph appeared to spread from the wound as a centre, and gradually disappeared on the peritoneum covering the lateral regions of the abdominal wall. The impress of the wound was obvious on the surface of the gut, in contact with it. Some coagula of blood, and an abundant, consistent, lymphy exudation upon the peritoneal surface of the intestine corresponded to the edges of the incision and surface of the wound. An abundant exudation of recent lymph glued the opposed surfaces of the intestines to each other. This exudation was most abundant, and the process seemed to have been most intense in the immediate vicinity of the wound. It became less obvious, and was entirely absent as the attachment of the mesentery to the back part of the abdomen was approached. The lateral and posterior parts of the abdominal cavity were free from lymphy exudations, and the peritoneum appeared natural. A considerable amount of free liquid was present in the cavity generally; and in some places (as over the anterior

margin of the liver, and surface of the stomach and transverse colon) it was pent up within cavities formed by recent exudation. The fluid exudation was of an acrimonious nature, if one may judge from its effects upon the hands after frequent immersion in it, the body being yet warm. The fluid had a pungent, irritant effect upon the thin skin beneath the edges of the nails and surrounding their matrices. The peduncle of the tumour was secured by a clamp outside the wound, and also by ligatures. They embraced the Fallopian tube, a reduplication of the round ligament, the broad ligament of the uterus, and accompanying blood-vessels. The peritoneal surfaces of the pelvis and pelvic viscera were free from lymphy exudations, and appeared healthy; the kidneys were normal. No further examination was made."

I appended the following remarks on this case in a paper read before the Royal Medical and Chirurgical Society, February 8, 1859:—

"Seeing that this patient had completely recovered from the shock of the operation, and from the effects of the chloroform, the question arises, what was the cause of her death? It may be said that after so severe an operation we need not be too curious on this point,—that death was what might be expected with far greater probability than recovery. But in the cases previously related the peritoneum had been quite as much exposed; the adhesions had been more extensive; in one it had been necessary to leave the ligature on the peduncle within the abdomen; in the second it had been necessary to separate adhesions to the liver and gall-bladder; in the third there had been enormous ascites, considerable hemorrhage, and a very large vein had been tied. Yet in all these cases, apparently so much more unfavourable, recovery had been complete. Why, then, did this patient die?

"In the first place, did she get too much opium? She had two grains of morphia, in divided doses, within ten hours after the operation, and one grain in the succeeding twelve hours. Yet it was not until four hours after the last dose, that any bad symptoms appeared which could be attributed to opium. Possibly the ill effect might have been indirect, causing suppression of urine; and it is possible that the suppositories were not equally mixed by the druggist; that some of them given early produced little effect, containing little morphia, while those given later were too strong, and told with too great effect. Still, the reply remains—she was well for four hours after the last dose.

"Secondly, did she die from peritonitis? Some who con-

sider the amount of lymph effused, and the quantity of serum found in the peritoneal cavity, would answer this question unhesitatingly in the affirmative. But I doubt if simple peritonitis was sufficient to cause such sudden collapse. It was partial, confined to the visceral layer opposed to the wounded surface only, not dipping down among the coils of intestine. My impression is, that if peritonitis killed her, it was indirectly, by the formation of a morbid poison. The serum was very acrid: it made Dr. Aitken's hands smart for some time; had he wounded himself, in all probability he would have suffered from morbid poisoning. Had he attended a woman in labour, in all probability that woman would have had puerperal peritonitis. If, then, my patient could generate a poison capable of killing other people, may it not have killed her? It was, probably, formed only from the inflamed portion of the peritoneum, the other portion being quite capable of absorbing rapidly. It will be seen that this inquiry is not without its practical importance, suggesting, as it does, the inference that it may possibly be advisable, in some cases, to provide for a free outlet of the effused serum. I should say, that by the use of new sponges only, new flannel, clean bedding, and newly ground or gilded instruments, I had carefully guarded against any putrid infection.

" Thirdly, had the bleeding from the peduncle or omentum any injurious influence? I should say, if any, it was only indirect, by leading to delay, longer exposure of intestine, and more necessity for cleansing the peritoneal cavity.

" Lastly, was the sudden collapse an example of that condition so well described by Dr. Simpson, as an occasional occurrence after any operation implicating the uterus and its appendages? He relates cases which had been observed by Lisfranc and himself, when a sudden faint or collapse, without premonitory symptoms, came on after excision of portions of the uterus. He saw it also in a patient upon whom Mr. Syme had performed the perineal section; in two or three cases after the emptying of an ovarian cyst; and once or twice after the termination of natural labour. He adds:—' It is an accident which seems peculiarly liable to occur after operations or injuries about the pelvic organs; and no sufficient explanation of it has yet been offered, nor does it even appear that sufficient attention has yet been given to it. I am not sure but that in amputating the cervix uteri, by obviating the necessity of forcibly dragging down the uterus from its position in the pelvis, we do something towards the prevention of this alarming and dangerous complication.' These observations of Dr. Simpson

are of great value, for if it were proved that traction upon the uterus was sometimes a cause of fatal collapse, it would lead us, in cases of short peduncle, rather to leave the stump within the abdominal cavity, than to draw the uterus far from its natural position in order to keep the stump of the peduncle outside the wound.

"Without pretending to any very accurate estimate of the share each of these agencies may have had in causing death, I will briefly state, that the lessons impressed upon my own mind by the case are,—first, that while my confidence in opium, as a preventive of peritonitis and as a remedial agent of great value in its treatment, is unshaken, I shall give it for the future in solution, not in the solid form. In the latter case, one is dependent upon the accuracy of the druggist, and it is possible that solution in the intestine may go on slowly for a time, and that a second or third suppository may be given before the first is dissolved. I shall adhere to the plan of giving it by the rectum, as less likely to induce vomiting, and to interfere with the digestion of food, and I shall administer it in solution by a graduated syringe formed to inject one, two, three, or four drachms of fluid with perfect accuracy.

"Secondly, if with pain in the abdomen there were the physical signs of serous effusion, I would provide for the escape of this serum through some portion of the wound.

"Thirdly, in a case of very short peduncle, I would either cut away a portion of the cyst, so as to add to the length of the peduncle, or I would rather leave the stump in the abdominal cavity, including it in an India-rubber tube, than exert much traction upon the uterus.

"Lastly, in bringing the edges of the wound together, I would take care to pass the pins not only through the abdominal wall, but they should pass through the peritoneum some little distance from the wound on either side, so that the divided edges of the peritoneum might be fairly brought into apposition, and no purulent secretion from the wound in the skin, fascia, or muscle could enter the peritoneal cavity."

Case V.—*Compound Ovarian Tumour; Ascites; Ovariotomy; successful result.*

R. W., aged 43, came from Dorking to consult me, and was admitted into the Samaritan Hospital, March 28, 1859.

History.—She had been married twenty years; has had eight children, seven of whom are living. Her mother is said to have died of ascites, but it might have been ovarian dropsy.

Four years ago she was confined with her last child. During her pregnancy she had a great deal of pain in the left side. This disappeared after the labour, but her abdomen did not diminish in size as usual. On the contrary, it continued to increase gradually, but very slowly, until September, 1858, when the increase became more rapid. It was not noticed to increase more on one side than the other, but extended centrally from below upwards. Since the more rapid increase she has lost health, strength, appetite, and flesh. The catamenia have been quite regular, but there was a greater quantity than usual last time.

Present State.—She is a large, spare woman, of very sallow complexion, and the skin is blotched in brown patches, very much like "bronzed skin." Bowels regular; rapid, very feeble pulse. The appearance of the abdomen is well represented by the appended wood-cut, copied from a photograph taken by Dr. Wright, but some months later, just before the operation.

Fig. 1.

The girth of the umbilicus was fifty-three inches, while the vertical measurement from the ensiform cartilage to the symphysis pubis was twenty-eight inches. She had an umbilical hernia long before the commencement of her present disease, and the skin at this spot was thin and transparent, being distended almost to bursting. Between the umbilicus and the symphysis pubis the skin was raised by dilated and varicose lymphatics,

presenting a very peculiar appearance. No solid tumour could be felt, but a fluctuation was very distinct all over the abdomen, though more distinct above, and less below; and, as percussion showed that the intestines were in the lumbar and hypochondriac regions, it was thought probable that an ovarian tumour was surrounded by ascitic fluid. Vaginal examination did not settle the question. The anterior wall of the vagina was somewhat depressed, but the uterus was movable, and no solid tumour could be felt.

Progress of the Case.—Partly because the skin at the umbilicus threatened to give way, and the patient was suffering greatly from distention, and partly to settle the diagnosis, I tapped the abdomen and removed six gallons of pale, amber-coloured, highly albuminous serum. A movable, unattached ovarian tumour was then discovered, apparently about the size of a man's head.

She suffered a good deal from sickness and depression for some days after the tapping, but left the hospital on the 4th of April, provided with an elastic belt and umbilical pad, with directions to return before the abdomen became as much distended as it had been.

She remained in the country until May 7th, when she was readmitted. The girth of the umbilicus was then fifty-one inches, and the distance between the ensiform cartilage and symphysis pubis twenty-eight inches. The catamenia had not appeared since she left the hospital, but they came on the day after she returned.

It now became a question whether ovariotomy should be performed at once, or whether an attempt should be made to lessen the shock of the operation by removing the ascitic fluid first, and the tumour in a few days afterwards. After consultation, I decided on the latter course, and removed forty-nine pounds ten ounces of ascitic fluid on the 9th of May. Sickness, tympanitis, some pain, and rapid, feeble pulse continued for ten days after the tapping; and it was not until the 24th of May that she was in a state sufficiently favourable for operation.

Operation, May 24th, at half-past 4, P. M.—I was anxious, if possible, to remove the tumour before much ascitic fluid escaped, in order that this fluid might serve as a protection to the intestines from the air. Accordingly, as soon as the integuments were divided over the linea alba from two inches above the umbilicus to about the same distance above the symphysis pubis, and some bleeding from superficial vessels had ceased, Dr. Routh pressed the tumour well forwards, as I rapidly laid

the peritoneal cavity open throughout the whole extent of the incision. There were only one or two slight omental adhesions, and as soon as these were separated by the hand the tumour was easily removed. The pedicle was formed of the right Fallopian tube, and broad and round ligaments, and was so very short that the clamp used to secure it was placed close to the uterus. The tumour was removed by cutting away, leaving a portion of it projecting as a mushroom outside the clamp. Scarcely an ounce of blood was lost. The wound was united by five harelip pins passed through the whole thickness of the abdominal parietes, including the peritoneum, which was perforated on each side, at about a third of an inch from the divided edge; the needles perforating the skin on each side at about an inch from the divided edge. Superficial sutures of silver wire were introduced between each pin. The clamp and stump of the pedicle were both outside on the abdomen, and the wound closed around. Not until the wound was nearly united was the ascitic fluid pressed out. The operation only occupied ten minutes. Lint was placed over the wound, and the abdomen supported by a flannel bandage. The tumour was a good specimen of the pseudo-colloid ovarian tumour, or compound ovarian cyst, and weighed ten pounds. The patient remained rather faint, and very sick for about an hour, when she began to recover. A morphia suppository (one-third of a grain), was introduced at 6 o'clock, P. M. A little brandy and water was given, and she began to feel better. At 10 o'clock, P. M., as there was some pain, a second suppository was given.

First day after operation. Vomiting continues troublesome, but she has had a fair night. Pulse 98; skin moist and warm; tongue clean; no pain; urine passed by catheter scanty and high coloured. Six minims of hydrocyanic acid were given in an ounce of water, but it was soon thrown up. Effervescing draughts were given in the afternoon; but the sickness continued, and she kept nothing on the stomach all day; still at night she was cheerful and without pain, and the urine increased in quantity.

Second day. Pulse stronger than it was before the operation. Some inclination in the bowels to act. Going on well in all respects. There was some abdominal pain in the afternoon, and another suppository was given. Vomiting had continued, but she kept some tea and toast down this afternoon. At night there was sickness and faintness, with small, feeble pulse, and anxious countenance; and small quantities of brandy and iced water were given at intervals through the night.

Third day. Sickness continues; pulse 120, very feeble; she is very low and faint, and the skin covered with a cold clammy perspiration; breathing a good deal oppressed; urine scanty and high coloured. Finding the physical signs of a large accumulation of fluid in the peritoneal cavity, I removed the clamp; and, after fixing the pedicle by a ligature, introduced my finger beside it, and thus gave exit to several pints of very fetid serum. She felt very much relieved after this. The sickness ceased two or three hours afterwards, and she kept down some cider, to which she took a fancy, and some veal broth afterwards. The pulse ranged to-day between 140 and 130.

Fourth day. Better all the morning, but in the afternoon she attempted to get to the night-chair, of course against orders, and was very much exhausted afterwards. She was faint, bedewed with cold perspiration; the hands and feet very cold; and the pulse almost imperceptible. Brandy was given freely, and she rallied. Then retching became very distressing, and a turpentine enema was given. This came away with some fæces, and a large amount of flatus. Rum and milk were afterwards injected into the rectum, and brandy was given every hour with water.

Fifth day. She is rallying. Sickness ceased after some iced champagne which was given this morning. The harelip pins were removed, and the wound found well united deeply, though the edges of the skin had not united. There is still a considerable discharge of fetid serum from the lower portion of the wound, where the ligature on the remains of the pedicle passes. Six ounces of strong beef-tea, with half an ounce of brandy, were injected into the rectum three times to-day, and she drank a quart bottle of champagne. A large quantity of flatus passes *per ano.*

Sixth day. Rather better all day; but is much troubled by flatulent distention of the abdomen. An enema of two drachms of tincture of assafœtida, and half an ounce of turpentine in a pint of thin arrow-root, was given, which came away soon afterwards, followed by a great deal of flatus, and much relief. Pulse has ranged as yet from 120 to 130. The enemata of beef-tea and brandy were continued, and she took champagne freely.

Seventh day. Pulse down to 108; urine more copious; abdomen much diminished in size. Beef-tea enemata and champagne as yesterday.

Second week. During this week there was a gradual amendment, though sickness and flatulence were troublesome

at times. The ligature came away with the sloughing stump of the pedicle on the eighth day, when the superficial sutures were removed, with the exception of one. Pulse ranging from 108 to 96, until the thirteenth day, when it ran up to 130 after a restless night. In the afternoon of this day there was a very large discharge of fetid pus from the opening left by the passage of the pedicle. She was low and heavy after this for some hours, and complained of cold feet; but some abdominal pain which had troubled her disappeared.

Third week. This was a week of slow, but steady improvement. She began to take food with appetite; the bowels acted regularly; the pulse ranged from 120 to 100. The urine was passed in natural quantity; the discharge from the wound gradually ceased: she began to sit up; the opening where the pedicle passed very rapidly filled by granulation; she passed good nights, rapidly gained strength, and left the hospital to return to Dorking by railway, on the 20th of June, twenty-seven days after the operation, and she was in robust health when seen there on the 30th of August.

Remarks.—One point of great practical interest in this case, namely, the propriety of removing ascitic fluid surrounding ovarian tumours as a preliminary step some days before ovariotomy, will be further illustrated by the history of the next case. The plan of uniting the wound by including the peritoneum in the sutures is one also worthy of remark. A third point of importance is the removal of the tumour while the peritoneal cavity is protected by the presence of the ascitic fluid. A fourth is the evacuation of the serum collecting in this cavity after the operation by opening the wound, as suggested in the remarks on the last case. Whatever may be thought of the hypothesis there advanced, it is very clear that, in the case above narrated, the practice so recommended was attended with the most marked success. The first evacuation of the serum was followed by immediate amendment, and some days afterwards the alarming symptoms disappeared soon after the escape of some fetid pus. This was precisely what was observed in Case I., where there was a very copious fetid sero-purulent discharge from the abdomen through the portion of the wound kept open by the ligature on the peduncle. It may be remembered that on two or three occasions when this opening became plugged accidentally, the patient complained of a good deal of pain, and became feverish, but immediate relief was afforded by a free discharge of fluid after clearing the ligature.

Case VI.—*Fibrous and cystic Ovarian Tumour; Ascites; Pleural Effusion; Ovariotomy; Death forty hours after Operation.*

E. Q., aged 29, was first admitted to the Samaritan Hospital, March 20, 1858.

History.—She was married seven years ago; her husband is alive, but she has had no children. First observed a tumour accidentally, low down in the right side, in May, 1857. She was attended by Mr. Roper, of Shoreditch, and Dr. Oldham saw her in November. The *ballottement* of the tumour was then so distinct that the possibility of pregnancy was suggested. After this the tumour increased, and the abdomen enlarged rapidly from the collection of ascitic fluid.

State on Admission.—A small, spare, delicate woman, with abdomen larger than a woman at the full period of pregnancy. At the lower part of the abdomen there is a solid tumour freely movable, not fluctuating. The os uteri does not admit the uterine sound; motion of the tumour is communicated instantly to the uterus. The catamenia have been regular, but rather excessive.

Progress of the Case.—As she was suffering greatly from abdominal distention, I tapped her on March 22nd, and removed thirty pints of turbid serum. The tumour was then found to be rather more to the right than left side, freely movable, smooth and hard, and measuring about seven inches by six. A certain amount of feverishness and pain followed the tapping, and some pain in the chest, and cough. A sinapism was applied to the chest on the right side. Bitartrate of potash was given three times a day in drachm doses, and small doses of morphia occasionally. She was afterwards put upon cod-liver oil, and a blister was applied. She left the hospital on May 11th, a note being taken at the time that the respiratory murmur was puerile on the left side, and defective below on the right side, where there were dulness on percussion, and absence of vocal fremitus.

She remained at home until November, 1858, when she was readmitted. At this time there was, as before, considerable doubt as to the nature of the tumour, and it was felt almost impossible to decide if it were a solid ovarian tumour, or a pedunculated fibrous outgrowth from the fundus of the uterus. In order to assist in determining this question, as the uterine sound would not pass the canal of the cervix uteri, I divided the cervix with Dr. Simpson's hysterotome, and the sound then passed to the extent of six inches. This was thought to be conclusive evidence that the tumour was uterine, especially

as the catamenia were abundant, and the tumour and uterus moved together in all directions. Then arose the question whether, as the tumour was evidently killing the woman by keeping up the collection of ascitic fluid, it would be justifiable to remove it. This was settled in the negative, on account of the state of the chest; for, after removing the ascitic fluid a second time, there still remained a troublesome cough and dyspnœa. There were the physical signs of effusion in the right pleural cavity, but a good deal of doubt was expressed by different physicians who examined her as to the amount of this effusion, and how far dulness depended on the fluid, on consolidated lung covered by a thin layer of fluid, or on displaced liver. Under these circumstances it was decided not to interfere surgically. The patient went home again and took a course of bichloride of mercury and bark, under which, with an occasional return to cod-liver oil, the breathing improved considerably, and she recovered some strength; but the abdominal enlargement considerably increased.

She was admitted, for the third time, on June 8, 1859. The tumour had undergone a remarkable change. It was, at least, double its former size, and, though still hard below, was distinctly fluctuating above. It extended from the pelvis to half-way between the umbilicus and ensiform cartilage. The uterus only admitted the uterine sound two and a half inches, and the tumour could be moved freely upwards without affecting the position of the uterus; though on pressing it backwards the uterus moved in the same direction. The tumour was surrounded by a large quantity of ascitic fluid. The largest circumference of the abdomen was at about an inch above the umbilicus, where the measurement was forty-four inches. The distance from the ensiform cartilage to the symphysis pubis was twenty-one inches, the umbilicus being mid-way. The general health is far better than before; she is able to walk about, has a good appetite, and sleeps well, but can only sleep when lying on the right side. There is slight cough, but much less than before. The catamenia appeared once last December, but since then she saw nothing till a week ago, when the flow came on, lasted three days, and was in about the usual quantity. She was placed on a liberal diet, with wine and beer, and ten minims of the muriated tincture of iron were given three times a day. The urine is natural in quantity and appearance, contains no albumen, but some phosphates.

A consultation was held, when the state of the chest became the subject of anxious consideration. The presence of some fluid in the right pleural cavity was undeniable, but the

lung played with tolerable freedom, and it was decided that there was nothing in the state of the chest to forbid operation. On the contrary, it was hoped that by removing the tumour, the cause of the pleural effusion would also be removed. It was clear that there would never be a more favourable time for operation, as the tumour was increasing rapidly. Still the operation was decided on, rather in compliance with her earnest wish to obtain relief than by the advice of the medical staff.

June 17th. Chloroform was administered by Dr. Priestley, and I commenced by making an incision through the integuments over the linea alba from two inches above the umbilicus curving round it down to two inches above the symphysis pubis. When the bleeding had ceased, the peritoneal cavity was opened to the same extent, the tumour being pressed forwards by Dr. Routh, as some twenty or thirty pints of the ascitic fluid were escaping. It became necessary to extend the incision upwards towards the ensiform cartilage on account of the large size of the tumour. Some rather extensive adhesions of the omentum, and of three portions of intestine were broken down, and then the tumour was pressed out through the wound. A large cyst at the upper and back part of the tumour gave way at this time, and it is probable that some of the fluid contents passed into the abdominal cavity. The pedicle was very short; or it might almost be said that there was no pedicle, the tumour being closely applied to the right side of the fundus of the uterus, the Fallopian tube much thickened and elongated, being closely attached to the walls of the tumour. A clamp was passed, however, between the uterus and the tumour, and the tumour separated by cutting it off, leaving a mushroom-shaped piece of it embraced by the clamp. A vessel in the substance of this piece of the tumour bled a little, but it was stopped by putting on a second clamp, and a strong twine ligature, the first clamp not including the whole of the part connecting the tumour with the uterus. The edges of the wound were then brought together by harelip pins, including the whole thickness of the abdominal parietes, and by intermediate superficial sutures of silver wire. Before the wound was finally closed, the ascitic fluid still remaining in the cavity was allowed to run out, and the patient was then lifted to bed.

The tumour consisted of a large lower solid portion, simply fibrous in structure, and of a large upper cyst with fibrinous clots adhering to the cyst wall. When the contents were removed the tumour weighed seven pounds and a half.

The patient remained very low for about an hour after the

operation, but recovered after taking some brandy and water, and vomiting. At 7 o'clock, P. M., she began to complain of pain in the back and abdomen, which was relieved for a time by an injection of fifteen minims of laudanum and two ounces of water into the rectum. She could only lie on her right side. The injection was repeated at half-past 8, and at half-past 10 o'clock the report is:—"Much improved; skin moist and warm; pulse 120; she slept for the last two hours without waking; and has not been sick again; no pain." Some clear urine was removed by the catheter.

Day after the operation. Slight sickness continued early in the morning, but she feels much better; pulse 108; tongue moist. The bed being saturated with ascitic fluid, which had continued to dribble beside the clamp, she was put on a dry bed, and the portion of the tumour projecting beyond the clamp was removed, as it was becoming offensive. She complained again at noon of slight abdominal pain, which was again relieved by the opium enema; she slept a good deal during the afternoon; skin warm and moist; pulse 100; breathing rather rapid, and a wish to cough, which was suppressed as it caused pain. She took some champagne and brandy and water, in small quantities, at intervals, during the day, but could not keep anything else on the stomach. The sickness increased towards night, and the pulse became more rapid and feeble.

Second day. During the night she complained of occasional pain, which she said was relieved by vomiting. Towards the morning the vomiting increased in frequency, and the pulse became more rapid and smaller. Enemata of brandy and water were administered; but she gradually sank, and died forty hours after the operation.

Examination three hours after Death.—There were from two to three pints of clear serum in the peritoneal cavity, no blood nor clots. The peritoneal aspect of the wound was perfectly united, the pins being quite hidden from view by the fold of membrane on either side. There was evidence of peritonitis to a considerable extent in the parietal portion of the membrane, especially on either side of the wound, and over the folds of intestine in apposition; the portion of omentum which had been adherent was also thick, injected, and hard. The peritonitis did not appear to have extended to the more deeply-situated folds of the intestine. About a pint of serous fluid had gravitated into the pelvic cavity. The peduncle was completely circumscribed by the ligature; it consisted of the Fallopian tube, and broad and round ligaments. The ligature

was tied within half an inch of the fundus of the uterus. The opposite ovary was of natural size; but both it and the Fallopian tube appeared to be congested. The uterus appeared to have been the seat of old peritonitis, as there were patches of organized lymph on its posterior surface. In the right pleural cavity there were upwards of six pints of clear serum; the lung was compressed and lying close to the spine, but it was still crepitant, and floated in water; the substance of the left lung was healthy, but there were extensive adhesions of both parietal and inter-lobular pleuræ. Nothing unusual in heart or pericardium, except a greater deposit of fat than ordinary near the apex of the heart.

Remarks.—This case, like the third and fifth, is an instance of a class of cases in which ovariotomy is resorted to as a last resource,—as the only thing to be done for a patient otherwise doomed to a speedy death. Large solid tumours, surrounded by ascitic effusion, in women broken down by long suffering, are among the most unfavourable cases the surgeon can meet with. Yet in the third and fifth cases such tumours were removed with the happiest results; and it appears probable that the pleural effusion in the present case had an important influence in preventing the recovery of the patient.

Case VII.—*Multilocular Ovarian Cyst; Ovariotomy; Recovery.*

J. F., aged 29, a lady's maid, single; admitted to the Samaritan Hospital, May 17, 1859.

History.—Has been in good health until eighteen months ago, when she first noticed a hard swelling on the right side. This increased, and Mr. Burton, of Blackheath, diagnosed ovarian disease. Increase continued, and she was admitted into St. George's Hospital, under Dr. Lee, in August, 1858. She remained there ten weeks, and left with directions to return when tapping became necessary. The catamenia continued regular up to November, since then they have appeared every fortnight. She was readmitted to St. George's Hospital on the 1st of March, 1859. She was tapped, and thirty-one pounds of thick amber-coloured fluid removed. After three weeks she went to the country, where she remained for six weeks previous to her admission to the Samaritan Hospital.

State on admission.—A well-formed, middle-sized, rather delicate-looking person. The abdomen is greatly distended, measuring forty-one inches in circumference at the umbilicus, and nineteen and a half inches from the ensiform cartilage to the symphysis pubis. She suffers great pain from the disten-

tion, and from indigestion; the respiration is much impeded; fluctuation very distinct all over the abdomen; dulness on percussion anteriorly and laterally, but clearness in right lateral lumbar region; both lumbar regions, and left lateral lumbar dull; anterior wall of vagina depressed; uterus normal and movable, but pressed backwards; pulse rapid and feeble; thoracic organs healthy.

Progress of the Case.—May 18th. Has passed a very bad night, suffering from distention, but some relief was obtained by opiates and a purgative.

20th. It was decided in consultation that I should tap, and, if the cyst proved to be unilocular, inject iodine; while, if it were multilocular, I should perform ovariotomy if her general health improved, and before the cyst became so much distended again. Accordingly, I removed twenty-three pounds of viscid fluid, sp. gr. 1012, and, by the use of Dr. Hewitt's ovarian sound, satisfied myself that there was a cluster of smaller cysts within the principal one. Iodine, therefore, was not used. Some temporary relief was obtained by the tapping, and she left the hospital on May 27th, with directions to return when the girth reached thirty-six inches.

She was readmitted June 22, 1859, in much better health than before, and it was decided, after consultation, that I should remove the cyst.

24th. Chloroform was administered by Dr. Graham Weir, of Edinburgh. I made an incision four inches long, over the linea alba, midway between the umbilicus and symphysis pubis, dividing the tissues until the cyst was exposed. I then broke down some extensive, but very slight, adhesions to the parietes, first with the finger and then with the hand, and rapidly emptied the principal cyst by a large trocar; some traction was made on this cyst as it was being emptied, but it could not be withdrawn. A second interior cyst was then tapped and emptied, but the cyst still remained firm. I accordingly enlarged the incision until it extended from the umbilicus to about an inch from the symphysis pubis, and, after separating a large portion of the omentum (which adhered to the upper portion of the cyst) and a coil of intestines, the cyst was withdrawn, and the edges of the wound carefully pressed together to prevent protrusion of the intestines. The peduncle was short and very broad, but after separating some portions of it, which did not contain vessels, by the hand, it was secured by a clamp fastened close to the uterus, and the cyst cut away, leaving a portion projecting beyond the clamp. Considerable traction was necessary to keep the clamp outside the wound, but this

was effected, and the divided edges of the abdominal parietes, including the peritoneum, united by harelip pins and by intermediate superficial wire sutures. The opposite ovary had been examined and found healthy.

The tumour consisted of one large cyst, and a group of smaller ones, containing fluid of very different density: one contained almost pure blood.

She remained depressed for about two hours, when she became restless, and complained of intense pain all over the abdomen. A large linseed poultice, covered with linen so that it could be changed easily, was applied, very hot, over the whole abdomen, and an enema of thirty minims of laudanum given in two ounces of water. This gave great relief. Sickness continued troublesome, but she passed a tolerable night.

It is needless to give a daily report of the case further, as it was almost one of uninterrupted recovery. The opium enema was repeated occasionally when there was pain. The poultices were used constantly for several days. On the third day she suffered a good deal from flatus, which was relieved by an injection of turpentine and assafœtida in thin arrow-root, a copious motion following it. I removed the pins on the fourth day; on the fifth the catamenia appeared unexpectedly; on the sixth day she appeared rather low and feverish, and the pulse became feeble and rose to 110. I carefully examined the wound, and pressed out from one to two drachms of very fetid pus from the track of one of the pins. This gave almost immediate relief. Sickness continued troublesome at times during the first week. The clamp was removed on July 2nd, and the last of the superficial sutures on the following day. A fortnight after the operation she was sitting up in bed, eating and sleeping well, almost free from pain, pulse 80, and the wound quite healed, except at the spot where the peduncle had passed; here there was still a little fetid purulent discharge.

July 14th. Wound healed; convalescent. She left the hospital four weeks after the operation; and I saw her on the 11th of August, strong and well, feeling, she said, "better than she ever was in her life before."

Remarks.—The chief differences in the treatment of this case to those previously reported, were the use of very hot linseed poultices to the abdomen, frequently removed; the smaller use of opium; and the earlier clearing of the bowels by enemata. The relief afforded by the poultices was very great and unmistakeable. The clearing of the bowels on the third or fourth day, by enema, may appear bad practice to those accustomed to keep the bowels confined by opium for a week or

ten days; but after trying this plan I have become convinced that it is carried too far, leading to flatulent distention, keeping up sickness, and, probably, doing as much harm as the opposite extreme of those operators who give calomel and black draught if the bowels are not open on the second or third day. In this, as in all other cases, the surgeon will do well to cast aside routine treatment, and, following the dictates of common sense, adapt his measures to the varying circumstances of the case before him.

Case VIII.—*Compound Ovarian Cyst; Ovariotomy; Convalescence.*

J. A., aged 47; married; admitted to the Samaritan Hospital, June 22, 1859.

History.—Married two years and a half ago, having been employed as a house-maid thirty-three years previous to marriage. Generally had good health; catamenia regular up to the age of forty-three, when they ceased, and only appeared once since, two years ago. Nine months after marriage she noticed some enlargement low down in the abdomen, and to the right side. She thought herself pregnant, and did not go under treatment for nine months longer; at that time she was treated for constipation, but the swelling and pain increased until January last, when she applied to Mr. H. Smith at the Westminster Dispensary, who detected ovarian disease, and tapped her; she filled again, and was tapped nine weeks after the first tapping; the third and fourth time the cyst filled at intervals of only three weeks: the fluid in each case being dark coffee coloured.

State on Admission.—A middle-sized, hectic looking woman, suffering from great pain both in the abdomen and back, dyspepsia and impeded respiration. A large ovarian cyst occupies the whole abdomen, and hard globular masses can be felt in the walls of the cyst on both sides.

Progress of the Case.—As she was very weak and restless, suffering from great pain, and a tendency to vomit, I decided, after consultation, to give some present relief by tapping, and then to endeavour to bring the general health up to a point at which ovariotomy might be performed with a better prospect of success. Accordingly, on the 26th of June, I removed eleven pounds of very thick fluid, which contained a great deal of decomposed blood, and coagulated fibrin. (This was afterwards explained by the fact that there had been a good deal of bleeding after the previous tapping.) She suffered from flatulent distention of the intestines for some days, and there

was some bleeding from the uterus. This was found to depend on a small polypus growing from one side of the canal of the cervix. I removed the polypus by torsion. During the next month she was put upon a liberal diet, with wine and beer, and improved so much in general health that it was decided, after careful consultation, to accede to the patient's wish to have ovariotomy performed.

July 25th. Chloroform was administered by Mr. Armstrong Todd, who used his new inhaler. I made an incision from five inches above the umbilicus, carrying it downwards in the median line to two inches above the symphysis pubis. One small artery was tied near the umbilicus. The peritoneum was divided along the whole extent of this wound as soon as the bleeding had ceased; extensive adhesions to the parietes on both sides were then broken down by the hand, and the cyst emptied by a large trocar. Adhesions to the omentum and small intestine were then carefully separated, but, before the cyst could be withdrawn, it was necessary to separate adhesions on the left side, by which the broad ligament, sigmoid flexure of colon, and Fallopian tube, were united with the cyst walls. The right ovary was that diseased, and the peduncle was formed of the right broad and round ligaments and Fallopian tube; but the left Fallopian tube was much thickened and elongated, and firmly adherent to the back and lower parts of the cyst, where the colon was also firmly attached. All these adhesions were broken down, the pedicle secured by a clamp, and the cyst cut away. There was then very free bleeding from several points where the cyst had been attached, and ten vessels had to be tied. Three of them were on different parts of the left Fallopian tube, and as this appeared to be so large and thick, and the left ovary (probably atrophied) could not be found, the tube was tied to the clamp, and fixed outside the lower part of the wound beside the peduncle. The wound was then united by harelip pins and superficial sutures, as in the cases previously reported. The ligatures were brought out about the centre of the wound.

The tumour was found to consist of one very large cyst, with a number of smaller cysts, and masses of semi-solid, pseudo-colloid substance in its walls.

It is unnecessary to follow the daily record of the case after operation, as it is merely one of almost uneventful recovery. Warm linseed poultices were kept on the abdomen; an occasional enema of twenty drops of laudanum in two ounces of

water was given when there was a little pain; the pulse varied from 90 to 112 during the first week; there was no vomiting till the third day; the harelip pins were removed on the third day, and the superficial sutures on the eighth; the wound united by first intention; the clamp was removed, and the bowels opened by warm-water enema on the fifth day. During the second week the only annoyance was from accumulation of flatus in the intestines, which was removed by the use of warm-water enemata. She had taken very little nourishment at first, but she soon began to take beef-tea, soda water and brandy, wine, and then the mistura vini gallici. On August 5th, two grains of quina were given three times a day, and on the 8th the dose was increased to three grains, as it seemed to have a good effect in diminishing the flatulent distention of the stomach and intestines. At the end of the month the wound had perfectly united, and the lower part had closed around the projecting end of the Fallopian tube, which was about the size of a strawberry. As she was anxious to leave the hospital, and was otherwise well, I removed the little projection on August 31st.

Remarks.—The chief peculiarity in the progress of this case, after operation, was the absence of vomiting. In my previous cases vomiting has been the most distressing symptom. The recommendation to give ice, or ice and opium, for some hours before the operation, was tried in the previous seven cases, but proved utterly useless. Ether was given instead of chloroform in the second case, also without any good effect. In my earlier cases I gave opium every four or six hours, or equivalent doses of morphia by suppository, keeping the bowels confined for eight or ten days after the operation; but thinking that this kept up sickness, and that the constipation led to flatulent distention, I discontinued this practice, only giving opium by enema, in small quantities, occasionally, when it was called for by pain, having the bowels opened about the fourth day by enema. The results of this treatment, combined with the constant use of hot poultices to the abdomen, have been most satisfactory. The patients have been in a far more natural state than before, suffering less from depression, nausea, pain, or flatulence, while the pulse has not been so rapid. Still the vomiting has been troublesome, and I determined to discontinue the use of ice before operation; it was not given in this case, but it would be unfair to attribute the absence of vomiting to this omission, as Mr. Todd finds that he is enabled, by the use of his inhaler, to keep patients narcotized by so

small a quantitity of chloroform that vomiting is rare. Further observation, however, is needed to settle this important practical question.

I have now very briefly to offer a few remarks on the means of diminishing the mortality after ovariotomy. And I propose to consider how our object of saving life may be obtained.

1. By the selection of proper cases only for operation.
2. By the determination of the stage of the disease in which the operation is most likely to prove successful.
3. By careful preparations to avoid all unnecessary sources of danger.
4. By the use of anæsthetics to lessen the risk of *shock.*
5. By certain precautions in the performance of the operation. And
6. By careful after-treatment.

1. As to the selection of cases. Without entering into the wide question of the diagnosis of ovarian tumours, it may not be quite unnecessary to say that the surgeon should be quite sure the tumour is ovarian before he determines to perform ovariotomy, when we remember that this operation has been attempted in cases of pregnancy, of hydatid tumours of the liver, of colloid disease of the peritoneum, of other malignant growths within the abdomen, of fibrous tumours of the uterus, of excessive fatty deposit in the integuments, of ascites, and in cases where there was no tumour whatever. The more glaring of these errors are not likely to be committed again; but with all our care there are cases in which doubts can only be entirely removed by an exploratory incision.

Then as to the characters of the tumour, I have no doubt that the surgeon who would only operate on cysts containing fluid which could be easily emptied, and if non-adherent, withdrawn through a very small incision, would be more succesful than another surgeon who removed solid tumours requiring the long incision. But the cases I have related, and very many others on record, show that the presence of extensive adhesions and large solid masses are quite consistent with a successful result.

The cases in which the operation certainly ought not to be performed are those in which there is coexisting disease of some important organ. If all the patients who had died after ovariotomy from old standing diseases of the lungs or kidneys were eliminated from the catalogue, the results of the operation would appear in a far more favourable light. The ope-

ration is discredited because it has been performed in ill-selected cases.

There are those who believe that the existence of adhesions, so far from contra-indicating the operation, are rather favourable than otherwise, inasmuch as the peritoneum, in its altered character, is not so likely to take an inflammatory action as when it is in a tolerably healthy condition. Many facts might be cited in favour of this view, and more against it; and it is one deserving of further inquiry.

2. As to the period for operation. There are surgeons who would only operate as a forlorn hope, when it is quite clear that the patient's days are numbered, and that if her life be shortened by the operation she cannot lose very much. Some, on the contrary, argue that this plan of operating *in extremis* has brought, and does bring, the operation into undeserved discredit; and that the less the general health of the patient has been shattered by the disease the more likely is she to survive a severe operation. To this it is replied that ovariotomy is an exception to the general rule, and that the most successful cases are those in which the patient has been most reduced by the disease, or the peritoneum most altered by extension. It is remarkable that in all the successful cases I have related, the disease was in a very advanced stage, while in the first fatal case it was in a much earlier period of development, and the general health comparatively little injured; but this point again requires more extended inquiry.

3. Patients have been exposed to unnecessary danger by being submitted to operation in a theatre, or in cold rooms, or in dry overheated rooms; or their limbs have been imperfectly covered and not protected from the fluid emptied from the cyst even after it has ceased. I have seen a patient's legs, thighs, and buttocks perfectly cold and wet from having been exposed for nearly an hour, uncovered, and lying on a sheet soaked with fluid. All this has been sufficiently insisted upon by Dr. Clay, Dr. F. Bird, and others, to render more than an allusion unnecessary.

4. *The use of Anæsthetics.*—The materials do not exist for a trustworthy comparison of the results of ovariotomy in cases where ether or chloroform were and were not administered. This is another question which can only be settled by future and more extended observation; but I firmly believe that the mortality *must be* diminished by the use of anæsthetics. The sickness which sometimes follows the use of chloroform is, of course, a great disadvantage, and the depressing effects might, in some cases, be too great; but, on the whole, I think, that by

greatly lessening the anxious apprehension of suffering which so often brings patients into an unfavourable condition for undergoing any operation, and by entirely preventing the shock at the time of the operation caused by the pain, by the knowledge that the abdomen was laid open, and by the manipulations of the operator and assistants, the good effects of anæsthetics must far outweigh any occasional ill-consequences.

5. Supposing that all the necessary preparatory measures have been taken,—a quiet, well-ventilated room secured, a good nurse provided, a couch and mattress placed in a good light, the room warmed to about 70°, and the air kept from being too dry by a kettle of water boiling on the fire; the patient dressed in a warm flannel gown, and the legs kept warm by woollen stockings and hot water cans, if needful; a good supply of soft, new, well-scalded sponge at hand; plenty of water at about 96°; soft flannel moistened in this water to protect any exposed intestines; all the necessary instruments for incision, tapping, securing vessels and the peduncle, and uniting the wound; an abdominal bandage; and a clean, warm bed ready to receive the patient; with chloroform, ether, wine and brandy; —there are still some points of practical importance which deserve notice.

First. As to the assistants or visitors. I think it unfair to a patient to expose her to any possible risk of putrid infection from students or surgeons engaged in the dissecting-room. On this ground I think the anatomical students at our large hospitals should not be admitted to the bed-side, and no visitor should be invited who has recently been engaged in a similar manner. Those present should only be enough to afford the necessary assistance to the operator, not crowding round him, nor impeding the supply of air to the patient.

Second. The *incision* should be exactly in the median line, so that integument and aponeurosis only need be divided before arriving at the peritoneum; it should not reach sufficiently near the pubes to endanger the gravitation of serum into the areolar tissue around the bladder and that of the pelvis generally, still less to endanger the bladder. Without running this risk, sufficient space can be often obtained below the umbilicus. If more be required, the incision can be carried upwards towards the ensiform cartilage, still in the median line, but with a curve round the umbilicus.

Third. In case of any doubt as to the exact boundary of the cyst, it is far better to open it than to run any risk of unnecessarily detaching the peritoneum from the abdominal walls.

Fourth. In cases where the cyst contains fluid it is well to use a large trocar, in order to save time; and to have an elastic tube attached to the canula, so that the fluid may be removed without wetting the patient, and while the abdomen is still covered

This modification of the trocar is of some importance. Tapping the abdomen with an ordinary trocar is a very clumsy proceeding. It is necessary to have basins held up to the canula, and these, as they are filled, are emptied into pails, amid much splashing, and unnecessary exposure and wetting of the patient. In all cases of tapping the chest or abdomen, or opening large abscesses, I have, for several years past, been in the habit of using the canula of Schuh, of Vienna, and attaching an elastic tube to it, thus conveying the fluid away quietly and neatly without alarming the patient, or wetting her linen, while the entrance of air into the space occupied by the fluid evacuated is rendered impossible. More recently I have used a still simpler and equally convenient instrument, first described by Mr. Charles Thompson, of Westerham, in the Medical Times and Gazette of March 27, 1858. This instrument is represented in the annexed wood-cut.

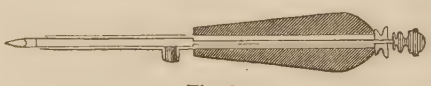


Fig. 2.

The trocar is made to fit the canula closely, like the piston of a syringe; there is an opening from the lower part of the canula, on to which an elastic tube can be fastened; I have added a stop-cock to the elastic tube, a few inches from the canula, in order that the rate at which the fluid flows off may he regulated, should the patient suffer from its too rapid evacuation.

In the next wood-cut the instrument is shown with both the trocar withdrawn and the tube attached.

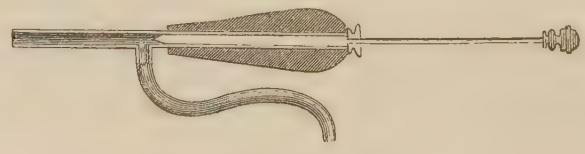


Fig. 3.

In ovariotomy the entrance of air into the sac is of no importance, and the mode of using this instrument is apparent;

but in simple tapping of ovarian cysts, as in evacuating fluid from the pleural or peritoneal cavities, or from the sac of large abscesses, it is of vital importance to prevent the entrance of air, and this may be done by drawing the piston back, as in fig. 3, placing the end of the elastic tube in a basin of water, and withdrawing the air from the tube and canula by suction, or by a syringe fitting the end of the canula. If the end of the tube be kept under water, and the piston be pushed forward, ready for use, the elastic tube is kept filled with water, which meets the fluid from the cyst when the operation has been commenced, and a syphon is formed. I think few surgeons who have once used this instrument, will ever use an ordinary trocar again for tapping either chest or abdomen.

Fifth. In breaking down adhesions it is far safer to use the hand than the knife. Should any portion of adherent omentum or mesentery contain large vessels, these should be tied or twisted at once, to prevent bleeding into the peritoneal cavity, and as it might be very difficult to find the bleeding point if once separated. In case of firm, tough adhesions the écraseur might prove very useful. Should there be adhesion to the intestines, or any viscus so firm that separation is very difficult, it might be better to cut away that portion of the cyst, leaving it adherent, than to run any risk of injuring an important organ; but in this case it would be desirable to remove the inner secreting coat of the cyst, if possible.

Sixth. In drawing out the cyst caution is required that the cyst only is drawn out; and, in removing a solid tumour, care is necessary that it does not fall suddenly and tear through any portion of the peduncle, thus giving rise to hemorrhage.

Seventh. In securing the peduncle ligatures were used in the first and second cases, clamps in all the others; but in the third and fourth these ligatures also became necessary, as in each case a portion of peduncle slipped from the grasp of the clamp. This danger, however, was avoided in the other cases, by taking care not to cut the cyst or tumour too close to the clamp, but leaving at least an inch projecting beyond the line of constriction. If ligatures be used, it should be remembered that a single one can very rarely be sufficient; and that cases are on record where patients have died on the table from a single ligature slipping, and it being afterwards impossible to find the bleeding vessels. The peduncle should be carefully transfixed, and tied in portions not broader than a finger. Perhaps it might be well to divide the round ligament with a knife, only tying the remainder of the peduncle; and I think it extremely probable that the écraseur may completely do

away both with the ligature and the clamp; as it might be used very slowly, and the peduncle not entirely separated for some hours after the wound was closed.

The annexed wood-cut shows the manner in which the

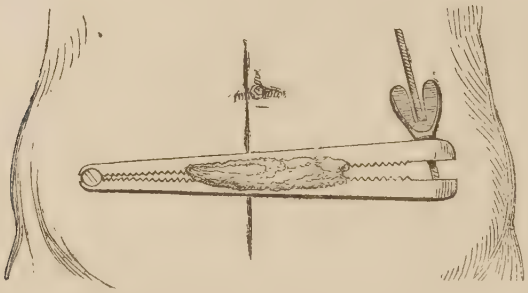


Fig. 4.

peduncle is embraced by the clamp, which lies across the wound, and prevents the sloughing stump from slipping into the abdominal cavity. In the drawing this instrument is half the real size, so that the body, to be in proportion, should be half the life size. I used this clamp in Case II., having it made like Ricord's fenestrated forceps for circumcision, with a screw for fixing. But it was not easy to apply, owing to the fixed stem; and as it was made of steel the rust which formed on it caused some irritation of the skin around the wound, although it was protected by lint. I therefore had an instrument made with a movable stem, and with two screws instead of one, in order to insure a more equable pressure on all parts of the peduncle;

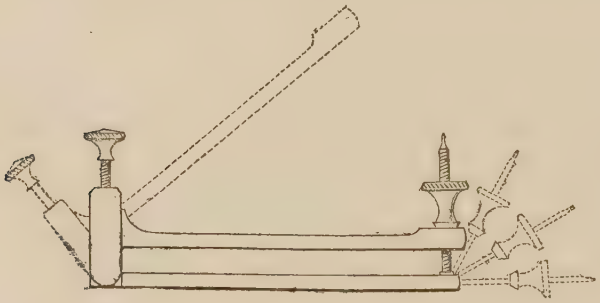


Fig. 5.

and it was strongly gilded to prevent rusting. This clamp is represented in the above wood-cut, the dotted lines showing

the manner in which the blade and stem are moved. I used this instrument in Case III., and I have since had the screws made flat instead of round, as, when the surgeon's hands are bloody, it is not easy to turn the round screw. In Cases VI. and VII. I used the calliper clamp, as originally devised by Mr. Hutchinson; but in Case VIII. I returned to my own, and believe it to be that which is most readily applied, which makes the most equable pressure on the peduncle, and lies the most easily, of any I have seen, upon the wound afterwards. The secret of safety from hemorrhage, in using any clamp, is to leave a sufficient amount of tissue projecting to give security against retraction of divided tissue, or slipping of the clamp,—in other words, not to cut away the tumour too close to the clamp.

Eighth. By carefully cleansing the peritoneum from all blood, clotted or otherwise, or any of the contents of the cysts which may have escaped. I think far more good is done by removing matter which would subsequently decompose, than harm by any irritation of the peritoneum with soft sponges. In this and previous stages of the operation the intestines should be kept as much as possible from protruding, by an assistant holding the edges of the wound together; and when intestine is exposed it should be protected by the warm moist flannel. Artificial serum has been used for this purpose instead of plain water, but I should certainly prefer the latter.

Ninth. In cases where it can be done without undue traction upon the uterus, the fixing the stump of the peduncle outside the peritoneal cavity appears to be a most important safeguard against peritonitis, and the low fever caused by absorption of the putrid matter flowing from the decomposing stump. Any one who sees the quantity of filthy sanies surrounding the stump as it lies on the abdomen of a patient day after day before it separates, must be struck with the danger attendant on such a process going on within the abdomen, even though this diffusion were checked by protecting effusion of lymph. It remains for a statistical inquiry to show how far mortality has been diminished in cases where the new plan (first recommended, I believe, by Mr. Duffin) was adopted.

Tenth. For bringing the edges of the wound together I think gilded harelip pins,—or pins of the *passive* iron-wire introduced by Dr. Simpson,—with the twisted suture, are the most trustworthy. The whole depth of the wound is brought together, and the pins act as splints, preventing any escape of intestine, an accident which has happened by the giving way of ordinary sutures. A few superficial sutures of silver, or iron-wire, may also be advisable to secure perfect apposition of the

divided edges of skin. I have found cotton-wool the most comfortable covering for the wound; and as an abdominal belt, nothing answers better than a double fold of flannel, kept from slipping upwards by a strip of linen passing round each thigh, and pinned to the lower edges of the flannel. Experiments on dogs, rabbits, and guinea-pigs, have convinced me that it is better to perforate the divided edges of the peritoneum by the harelip pins, so as to press two folds of the peritoneum against each other, than to run any risk of contact of the peritoneum with the divided tissues of the abdominal parietes. But as I intend to make these experiments the subject of a special communication to one of our learned societies, I merely state the result here for the information of other operators.

6. On careful nursing and judicious after-treatment a great share of success must depend. In many of the cases of ovariotomy reported, it seems perfectly wonderful that the patient has survived the after-treatment. Bleeding, leeches, blisters, calomel and purgatives, and starvation, have often been prescribed. Who can wonder at the death of the patient? The wonder is that so many have survived all this. The great objects appear to me to be to keep the patient perfectly quiet, free from pain, and thoroughly clean; the surgeon should not be led by the fact of the pulse being very rapid to fear peritonitis, and adopt active measures. It has seemed to me that the rapidity of the pulse is owing, in a great measure, to the return of the heart to its normal situation; but whether this be so or not it is certainly no ground for active measures. With the exception of opium, given with the precautions I have already indicated, I am disposed to attach far more importance to hygienic measures than to medicinal treatment. A well-ventilated room, warm, but not unpleasantly so to the patient, the air comfortably moist, and perfect quiet, seem to me to be the chief requisites. With the object of maintaining rest, the patient should not get up to pass water, but the catheter should be used every six hours. One good effect of the opium is to keep the bowels quiet, but if there be much flatulence I do not think it is well to keep up the state of constipation too long. I have never seen any good done by O'Beirne's tube in relieving flatulence. A little soda in peppermint water, or chloric ether with aromatic confection, seems to give as much comfort as anything; but this flatulence is always a troublesome symptom for some days. The intestines seem to miss their accustomed support or pressure. The application of warmth and moisture to the abdomen, by means of a warm linseed-meal poultice, is particularly grateful to the patient, and I feel disposed to regard

it as of considerable importance in the after-treatment. As to food, I have not been disposed to urge it until there was a decided appetite, but to leave beef-tea, arrow-root, with or without wine or brandy, rice-water, and barley-water, or a little tea and dry toast with the nurse, to be given very much as the patient wished for them, and, after a few days, some solid food. The fetid stump I have kept covered by a muslin bag of peat-charcoal, changed once or twice a day, in order that the patient might not be nauseated by the fetid odour which would otherwise proceed from it. I have not disturbed the wound until union was perfect; and if gilded pins or metallic sutures be used they may be left with safety for many days; though I believe the best plan is to remove the pins on the third or fourth day, leaving the superficial sutures three or four days longer. So soon as the patient is able to get about pretty well, country air is the best restorative.

I should be content with thus bringing before the profession a very imperfect sketch of what I have been taught by a study of the recorded cases of ovariotomy and by my own experience, submitting with very great diffidence the conclusions at which I have arrived, to the judgment of many whose observation of ovarian disease has been far greater than mine; but I feel that some reply is wanting to those who say that ovariotomy is an unjustifiable operation—one so dangerous to life that it ought never to be performed under any circumstances. I do not wonder that such a feeling should be entertained by many. I know well how painful it is to a surgeon to feel that he has shortened the life of a patient—that a woman who might have lived months, perhaps years, has died within a few hours of the attempt he has made to restore her to perfect health. But there is a reverse to the picture; for as surely as the end of some patients may be hastened, others are relieved from a life of suffering, and the surgeon's noblest end is attained—the complete cure of the diseased person without mutilation of any part of the body. In this and other respects the operations of ovariotomy and lithotomy in the adult are singularly analogous. In both, the sufferer is subject to a disease which causes great pain, or great discomfort; which may possibly go on for years without causing death, but which, if left alone, entails a miserable existence and a painful end. The stone in the one case, the tumour in the other, may be removed by the surgeon; but the attempt to save life may hasten death, and the proportionate mortality of the two operations is not very different. I am not about to append statistical tables to decide whether the mortality after ovariotomy has been 30, 40, 50, or

60 per cent. It may be made anything the compiler pleases by excluding, or not, cases in which errors of diagnosis, the obvious faults of inexperienced operators, mistakes in after-treatment, and coexistent diseases, have had a share in the fatal result. I might reply to Simon's tables of forty-six deaths out of sixty-four cases in Germany, that Dr. Clay, of Manchester, up to last year had had eighty-seven cases, and only twenty-seven deaths. I might even point to the encouraging results of my own limited experience; but I leave an extended statistical inquiry for future labour, with the simple remark that, taking the most unfavourable view the opponents of the operation have been able to substantiate, the mortality is not very much greater than that after lithotomy in the adult. It is not generally known, but it is true, that after the age of fourteen, more than one-half of those submitted to lithotomy in the hospitals of London die very soon after the operation; so soon, that the operation and the death must be looked upon as cause and effect. Yet nobody decries lithotomy as an unjustifiable operation.

But, it is said that by palliative treatment, by tapping, and by the injection of iodine, we have other means of relieving patients of ovarian disease, whereas the removal of the stone is the only means of relieving the calculous patient. I reply, that palliative treatment is of little avail—that tapping is in itself dangerous, even in the few cases to which it is applicable—and that, although injection of iodine is proved to be occasionally successful in those rare cases when the cyst is unilocular, yet its effects, even in these cases, are uncertain, and sometimes deadly.

An objection of far greater weight is the oft-repeated fact, that patients may live many years with ovarian disease, and die at last at a good old age. I answer, that it is no comfort to one woman dying of ovarian disease, to tell her that another woman has lived for fifty years with a disease somewhat similar. We do not purpose to perform ovariotomy in a case where a woman, if left alone, would probably live in tolerable comfort for several years. We let *her* alone, and do the little we can to increase her comfort. The cases in which we incur the heavy responsibility of performing a dangerous operation, are those in which the patient *must* take her choice on the one hand, between the risk attendant on such an operation, with a hope of perfect cure if all go well; and on the other, a life of suffering, to be terminated, at no distant date, by a miserable death. For in most cases it is a life of suffering, and great and constant suffering, mental and bodily; and death from the natural termination of the disease is one of the most trying we ever

witness. All must acknowledge the truthfulness of the following picture, drawn by one of the ablest and most logical of the general opponents of ovariotomy. In the last edition of his Lectures on the diseases of women, Dr. West, after describing a variety of painful symptoms under which women suffer in the earlier stages of ovarian disease, says (page 527) that as the end approaches we have " symptoms of the same kind as we see towards the close of every lingering disease, betokening the gradual failure, first of one power, then of another; the flickering of the taper, which as all can see, must soon go out. The appetite becomes more and more capricious, and at last no ingenuity of culinary skill can tempt it, while digestion fails even more rapidly, and the wasting body tells but too plainly how the little food nourishes still less and less. The pulse grows feebler, and the strength diminishes every day, and one by one each customary exertion is abandoned. At first the efforts made for the sake of the change which the sick so crave for are given up; then those for cleanliness; and lastly, those for comfort,—till at length one position is maintained all day long in spite of the cracking of the tender skin, it sufficing for the patient if in that respiration can go on quietly, and she can suffer undisturbed. Weariness drives away sleep, or sleep brings no refreshing. The mind alone, amid the general decay, remains undisturbed; but it is not cheered by those illusory hopes which gild, though with a false brightness, the decline of the consumptive; for step by step death is felt to be advancing; the patient watches his approach as keenly as we, often with acuter perception of his nearness. We come to the sick chamber day by day to be idle spectators of a sad ceremony, and leave it humbled by the consciousness of the narrow limits which circumscribe the resources of our art."

This picture drawn by Dr. West is true. We have all seen the poor creatures he so eloquently describes fading hopelessly away. But the resources of our art are not so limited as he would imply. We may be something more than idle spectators of a death-bed. We have a resource to offer,—hazardous it is true,—but one which has in many cases been crowned by a complete and brilliant success.

Some months ago I stood at one of these death-beds, in consultation with one of our highest authorities on ovarian disease. He was half convinced by my arguments in favour of an operation, but he felt his responsibility deeply, and said, " How dare I advise an operation we both know to be so dangerous?" I replied, " How dare you leave the poor woman to die without an effort to save her?"

These are the anxious doubts and grave responsibilities ever recurring in the life of practitioners of medicine and surgery. My earnest hope is, that by bringing this subject prominently forward for discussion, something may be done to solve the doubts and lighten the responsibility of those who seek for the "influence of authority in matters of opinion."

P. S.—While the foregoing pages were going through the press, the patient the subject of third case died. She had been quite well for several months, and had done farm-work in the field; but six weeks ago she began to complain of constipation, which increased, and she died on the 26th of August, with all the signs of intestinal obstruction. The peritoneum was studded with innumerable whitish, opaque, elevated deposits of fibrous cancer, from the size of a pin's head to that of a pea, and there were three very close strictures of the small intestine, caused, not by contracting lymph, but by the malignant deposit in the coats of the intestine. The peduncle of the removed ovary was fixed to the cicatrix, and disease had commenced in the other ovary, which was enlarged to the size of a small apple.

Art. XIII.—*On Strangulated Femoral Hernia.* By Samuel G. Wilmot, M. D., Surgeon to and Lecturer on Surgery in Steevens' Hospital, &c., &c.

The uncertain result of the operation for strangulatd hernia demands a search after such evidence, direct and collateral, as can furnish a clue to the conditions upon which success or failure depend. That this operation often succeeds under circumstances apparently the most adverse, and sometimes fails where the conditions seem favourable, is a fact that cannot be denied; yet there is no operation in surgery more influenced than it by the circumstances as to the period at which it is performed, the duration of the disease, the urgency of the symptoms, as well as the health and age of the individual. Statistical investigation can alone yield solid practical instruction on these points. It may, I think, be laid down as an axiom, that the success of the operation for strangulated hernia is in the direct ratio of the early period at which it is performed. It is not so much the operative procedure which is to be feared as delay in resorting to it.

The following case is one of many that can be adduced in proof of the advantages of operating early.

A lady, aged forty-five years, a widow, having had one child, suffered from femoral hernia of the left side for eight years. The tumour was small; it disappeared when the patient lay on her back, and did not offer any annoyance unless after a long walk or fatigue of any kind, when it was apt to increase in size, and to become somewhat painful. On one occasion, while making a slight exertion, she suddenly experienced severe pain in the tumour, and this was almost immediately followed by a cramp-like pain across the lower part of the abdomen, which prevented her from standing erect. I saw the patient at the end of three hours from this occurrence, and then all the symptoms belonging to strangulated hernia of the acute form were present. There was constant bilious vomiting, attended with much straining; she complained mostly of tormina, and pain across the lower part of the abdomen, as well as in the tumour, which was very tense, and unusually intolerant of pressure at so early a period; pressure exercised on the abdomen did not, however, cause any pain, except during a paroxysm of tormina. There was thirst; the pulse was accelerated, and the heat of skin augmented.

I endeavoured to effect the taxis, but without any success. As there had been no evacuation from the bowels for twenty-four hours, a purgative enema was administered by means of the long tube, but it was not followed by any feculent discharge. At the expiration of two hours the symptoms had greatly advanced, and the case had become very urgent. The pulse had increased in frequency; the patient was much weaker, and more depressed; and the pain complained of in the tumour and lower part of the abdomen had augmented to an unusual degree. Efforts to accomplish the taxis were renewed, but with similar result, manipulation not seeming to make the slightest impression on the tumour.

Being reluctant to incur any delay in putting the ordinary auxiliary measures to the taxis into requisition, I proceeded at once to the operation, which was performed exactly five hours from the occurrence of the first symptom of strangulation.

Nothing worthy of special mention was noted during the steps of the operation. The contents of the sac were exclusively intestinal, there was hardly any fluid, and the stricture was so remarkably close as to render it nearly impossible to insert the nail of the finger within it. After the operation a small quantity of warm negus was administered.

On the following day I found her doing well. There was no return of the vomiting; abdomen free from tenderness and tension; tongue rather furred; some thirst; pulse nearly 100.

There had not been any evacuation from the bowels since the operation. She was placed on small doses of calomel, and a simple enema of warm water was ordered for the evening. Early the next morning the patient had three copious evacuations, and from this out she progressed rapidly. The calomel was continued for two or three days, when, having threatened to produce ptyalism, it was discontinued. The wound healed *almost* by the "first intention:" in the centre, where a little of the adipose tissue had bulged out, granulations sprang up, but there was no appreciable secretion of pus, and never any soreness or tension about the wound, so as to demand the application of a poultice. The upper and lower parts of the wound were healed in a week's time, and the whole was completely and permanently closed in about ten days.

On the fourteenth day after the operation the patient left her bed, and, throwing off all restraint, regardless of the consequences, she ate meat, drank wine, and went about the house engaging in her usual avocations. No evil resulted from this premature return to her *former habits and mode of living.*

The foregoing case affords an excellent example of the advantages of operating early in strangulated hernia: its rapid progress to recovery, unmarked by a single unfavourable circumstance, being obviously due to the operation not having been delayed. I determined on operating at once, and not waiting to put any of the ordinary auxiliaries into effect, from two considerations mainly:—First, the intense and increasing pain which existed in the tumour and the lower part of the abdomen. Second, the fact of the pulse having become rapid and feeble, accompanied by exhaustion in so short a time.

Many may be of opinion that it was hardly justifiable to resort to the operation so speedily, especially where the warm bath and the tobacco enema were not tried. Intense pain and rapid depression of the system are, however, symptoms which most, of all others, demand the operation, and forbid delay. But, apart from special considerations, or any regard to individual cases, we should weigh how far the delay involved in putting the auxiliaries into requisition is overbalanced by the advantage these measures afford. Every moment lost in returning the hernia adds to the urgency of the case, and places the patient in a less favourable state for the operation. And if delay is objectionable in all cases, on the ground of its adding to the risk of the operation, then such measures as necessitate delay are only justifiable where there is a good prospect of their succeeding. Now in femoral hernia the chance of success by the taxis is very small, all circumstances conspiring to ren-

der it ineffectual,—the shape of the tumour, the peculiar course the hernia takes, first passing downwards, then forwards, and finally upwards, thus presenting a curve, the concavity looking upwards, and especially the close and unyielding nature of the apertures which constrict it.

The case is different with respect to inguinal hernia: hence, whether we are to delay operating or not, the extent of the delay, and the confidence we are entitled to repose in the efficacy of measures auxiliary to the taxis in any given case of strangulated hernia, will depend on whether it be of the inguinal or femoral form. In inguinal hernia the taxis generally succeeds, because here the rings are large and yielding, and the course the hernia takes *comparatively direct;* hence the case will admit of the delay necessary for carrying out the auxiliary measures. The tobacco enema, an agent powerful for evil as for good, frequently succeeds in inguinal hernia, but it is irrational to suppose that it can exercise much influence in the femoral form, seeing that in it the constricting force is altogether *mechanical*, the parts being constituted of dense fibrous structures, without any intermingling of muscular tissue. The great contrast between inguinal and femoral hernia, with respect to the admissibility of delay, was well exemplified in a case which came recently under my notice, a full week having elapsed before a very large scrotal hernia, accompanied by vomiting and other symptoms of strangulation, could be returned. It follows, then, that while in the femoral, as in every other form of hernia, it is the surgeon's duty to give the taxis a fair trial; still, we must be very prompt in resorting to operation, owing to the close and unyielding nature of the constriction, which renders the taxis and its auxiliaries so unlikely to succeed.

Another question which may be asked in connexion with this case is, why was not the stricture relieved without opening the sac, strangulation having existed so short a time? If ever a case were suitable to Petit's method of operating, it is the one recited. But wherein consists the advantage of *not* opening the sac? It has been answered, that the chance of peritonitis is diminished thereby; but this opinion seems to rest on slender grounds, for when death results from the operation it is not often attributable to peritonitis. It is admitted on all sides that when the operation is undertaken late, the sac ought to be opened, but it should be remembered that the injury done to a coil of intestine depends rather on the degree of the constriction than on the length of time the constricting force has been

exercised. A few hours' strangulation may do more mischief to intestine or omentum, in one case, than a few days, in another, and unless the sac be opened the condition of its contents cannot, of course, be ascertained.

Again, in cases especially where both intestine and omentum are protruded, some peculiar mechanical condition may exist, which can neither be recognised nor remedied except by opening the sac. Further, inflammation and effusion of lymph sometimes take place at a very early period, when the constriction is great, and there has been much handling of the tumour, and it it obvious what the result must be, in such a case, of not opening the sac and breaking through the adhesions. I make no allusion to those cases of hernia in which a truss has been previously worn, since here the advantages of opening the sac and dividing the stricture within it can be hardly denied by the most strenuous supporters of Petit's principle of operation. Lastly, if the sac be not opened, what guarantee can there be for the complete and safe return of the intestine into the cavity of the abdomen?

For these reasons I think it a prudent measure to open the sac in *all* cases, at least of strangulated femoral hernia; and undoubtedly when, as has been already stated, the operation is performed early, it generally proves successful in simple uncomplicated cases.

But it sometimes happens that when the sac is opened, the intestine will present so healthy an appearance as to warrant its being returned, there not being discoverable the slightest evidence of gangrene nor of ulceration, and sometimes not even of much congestion, and yet it may afterwards give way, and thus lead to fæcal extravasation and its fearful consequences, or to artificial anus. The latter event is happily the more common of the two, and does not occur for some days after the operation. Everything appears to go on well at first: the bowels have, perhaps, been acting satisfactorily, and the wound often looking healthy, when, about the tenth day generally, feculent discharge is perceptible. The quantity at first is trifling, frequently not being more than what is sufficient to stain the dressings, but by degrees it increases, and amounts in some instances to a copious flow. This occurrence is most disagreeable and alarming to the patient, as well as troublesome to the surgeon.

But it is not the inconvenience, nor annoyance, nor the delay in the closing of the wound, caused by this untoward event, which renders it a source of especial concern, but the

danger to be apprehended of its being followed eventually by ulceration of the intestine, and consequent peritonitis. The subjoined case is an example of this serious result:—

A delicate woman, aged 40, had been liable to femoral hernia of the right side for five years; it only occasionally descended, but was quite reducible, and, though ignorant of the nature of the tumour, she always succeeded in returning it. Two days before her admission into hospital, after an unusual amount of walking, the hernia descended, and she completely failed to get it up.

At the time of her admission all the symptoms of strangulation were present: there were constipation of the bowels, constant vomiting, and pain about the umbilicus; the pulse was quick; there was thirst, heat of skin, and much depression. The hernial tumour was about the size of a walnut, and rested on Poupart's ligament, the bulbous extremity being above, from whence a narrow neck could be traced down to the saphenic opening. The skin was red and somewhat œdematous, the result, probably, of constant handling by the patient.

The taxis was tried, but failed; a purgative enema was then administered, and afterwards the taxis was again resorted to, yet without success. The operation was now proposed to her, but she refused to undergo it. On the next day the symptoms had somewhat increased; the constipation and vomiting continued; the pulse was quicker, the fever more marked, and there was slight tenderness across the hypogastrium.

The patient consented to the operation in the afternoon, it being the third day from the occurrence of strangulation. On opening the sac, the intestine was found to be slightly inflamed, and was coated with lymph at one or two points, yet there was nothing apparent to the eye that could be supposed to prohibit the fair return of the intestine into the cavity of the abdomen. At the end of three hours from the operation the patient had three or four evacuations.

All went on well until the sixth day after the operation, when the wound opened out and looked sloughy. Poultice and warm dressing were applied. On the next day the lips of the wound became everted, and were surrounded with a wide erysipelatous margin; in all other respects, however, the case progressed favourably.

Eighth day. She had a bad night; the stomach is irritable; tongue bright red and dry; pulse 112. The redness around the wound has increased; there is some diarrhœa, but no tenderness of abdomen.

Ninth day. She is much better; stomach tranquil; pulse slower.

Tenth day. There is a further improvement manifest. The redness around the wound has greatly diminished. On removing the dressings, some yellow matter like fæces was observed on the lint, and this led to the impression that an artificial anus was about to be established. In the evening the occurrence was rendered unmistakable by the amount of feculent discharge on the dressings. For two or three days the quantity of fæces which passed by the wound augmented, appearing chiefly during exertion, especially that of attempting to evacuate the bowels. It then began to gradually lessen, and the wound to granulate. At the end of eleven days the feculent discharge had entirely ceased, and the wound was, in great measure, cicatrized. In a short time the wound was completely healed, and the patient soon left the hospital.

She continued apparently in the enjoyment of good health for nearly three months, when she began to complain of pain in the bowels, some tenderness in the right iliac fossa, and dyspeptic symptoms. These gradually increased in severity, and, after lasting for some days, peritonitis suddenly supervened, and ran its course to a fatal termination, in thirty-six hours.

A post-mortem examination was made, when a perforating ulcer of the ilium, close to the spot which had constituted the artificial anus, was discovered.

This case contributes additional evidence in favour of operating early. Delay led here to inflammation and softening of the intestine, the effects of which proved permanent, causing perforation at two periods, viz., on the tenth day after operation, when it resulted in artificial anus, and at the end of three months, when it was followed by fatal peritonitis. It would appear, then, that artificial anus is evidence of a condition of the strangulated intestine (the result of delay in performing the operation) which is apt to lead eventually to extravasation of fæces into the cavity of the peritoneum, and consequent death. Hence it should influence very materially the ultimate prognosis that the surgeon may give.

Rupture of the intestine, from sloughing or ulceration, at an early period after the operation, is, of course, a more unfavourable event than either of the two mentioned, and, since its consequences can be obviated by not returning the part into the cavity of the abdomen, it becomes all important to be able to recognise that change of condition which might possibly be followed by rupture after the return of the intestine. When

the intestine is actually gangrenous, the change is readily recognised, the part being in general of a greenish colour, flaccid, having lost its polished surface, and the serum in the sac being brown and often fetid. But the strangulated part may be so far softened and otherwise altered in its physical characteristics, without exhibiting any actual morbid appearance, as to forbid its return, lest it should afterwards give way. The great guide to the recognition of that state of intestine which is contra-indicative to its return, is flaccidity and want of polish. The part may be perfectly black from ecchymosis, or purple from congestion, yet so long as it is firm and retains its polished surface, no fear need be apprehended of returning it fairly into the cavity of the abdomen.

The following case affords proof of this, and clearly demonstrates not only the safety of returning an ecchymosed intestine into the abdomen, but the essential distinguishing features between ecchymosis and gangrene.

A lady, aged 45, the mother of many children, had a femoral hernia of the right side for some time. She had been in the habit of wearing a truss, but injudiciously laid it aside. On one occasion, while making an exertion, the hernia protruded, and her efforts to return it proved unsuccessful. Shortly after this occurrence, symptoms of strangulation supervened, but, notwithstanding, she went about, exerted herself unusually, and, in consequence of being obliged to attend on an invalid, she had to stretch her body, and to make such efforts as necessarily exposed the hernia to pressure and contusion. During the entire night she seldom lay down; in the morning she was compelled to take to bed. The vomiting was very urgent; the bowels were obstinately constipated; and there was an excessive degree of twisting pain about the umbilicus. The tumour was remarkably tense, and very painful on pressure.

The taxis was tried, but failed; and, after some of the auxiliaries were employed without effect, the operation was proposed to the patient. She, however, refused to submit to it. Further efforts to reduce the hernia were then made, and, at the end of forty hours from the occurrence of the strangulation, the patient, seeing the inutility of all the measures which had been resorted to, consented to the operation.

Nothing unusual presented itself during the steps of the operation until the sac was opened, when there escaped a quantity of black blood, of the consistence of thick mucilage, and of the appearance of common shoe-blacking. There being no omentum, the intestine was then brought immediately into

view. It was of a perfectly black colour, but tense, firm, and smooth, and polished. There was not the slightest degree of fetor perceptible. Mr. Cusack and Mr. Adams, who were present, agreed that the condition of the intestine alluded to was the result *solely* of ecchymosis, induced partly by the extreme tightness of the constriction, and partly by the pressure and injury to which the tumour had been previously subjected, and gave it as their opinion that the intestine might be fairly returned into the cavity of the abdomen. When the stricture was divided, the intestine, which before was so tense, completely collapsed, and an indented line could be seen around it, corresponding with the previous point of constriction.

That the operation was, however, satisfactory in all results, was evidenced by the occurrence shortly afterwards of three or four alvine evacuations, unaided by any purgative or enema. On the third day after the operation a firm coagulum of blood was discharged along with the fæces, and, from its size and shape, there could be no doubt that it had been confined in the knuckle of intestine which had constituted the hernia, and proved to what an excessive amount of constriction and injury the part had been exposed.

The lady completely recovered, though her convalescence was somewhat protracted, and complicated with nervous and dyspeptic symptoms, which, however, were not altogether new features.

The last case which I shall recite shows the difference between lividity of intestine from congestion and the effect of gangrene.

A woman, aged 40, was recently admitted into Steevens' Hospital with strangulated femoral hernia of the right side. She stated that two months previously she perceived a small round tumour in the right groin, that it never occasioned any pain or inconvenience, and, as well as she could recollect, never retired, but remained stationary.

It appeared that on the evening before her admission, while standing at a table ironing some clothes, hardly making any exertion, she was seized with pain in the tumour, after which her stomach became sick, and she vomited. The nausea and vomiting continued incessantly during the night; she did not appear at the hospital until 4 o'clock in the afternoon of the following day.

On examination, the tumour was found to be of a very peculiar shape, so much so that, had it not been for the well-marked character of the symptoms, the nature of the case might

have been readily mistaken. It was unusually broad, as well as irregular, at the upper part, and there distinct fluctuation was perceptible. Not the least impression could be made on the hernia by manipulation; enemata failed to bring away any fæces; the vomiting was incessant; the pulse small and frequent, and there was much prostration. The operation was proposed to the patient, but would not be acceded to until 10 o'clock on the following morning, it being better than forty hours from the first symptom of strangulation.

The operative steps were accomplished with facility, the coverings of the hernia having been few and thin. On opening the sac, a quantity of a thin whitish fluid, resembling whey, escaped; there was no omentum present; the intestine was so livid as to cause some doubt at first as to its being sound, and no little hesitation regarding the propriety of returning it. Careful inspection of the part, however, showed that there was no actual change in it save that of colour; there were the normal firmness and polish, as well as absence of fœtor. It therefore became obvious that the lividity was due entirely to congestion, arising from an excessive degree of constricting force. The structure was so close that it was impossible to insert the point of the nail within it, and when its division was effected, the intestine collapsed, and presented a line of indentation deeper even than that observed in the preceding case.

No untoward symptom arose after the operation. The wound healed kindly and rapidly, and the patient, who had been delicate for some years, improved in health, and has continued ever since tolerably well.

Art. XIV.—*Cases in Midwifery from Dispensary and Private Practice.* By T. Purefoy, M. D., &c., Lucan.

CASES OF LABOUR COMPLICATED WITH HEMORRHAGE.

Case I.—A. E., taken in labour on the 7th of November, at 8 o'clock p. m., was delivered of a living infant at 3 o'clock on the evening of the next day: and, in six hours after the birth of the first child, a second was born. This woman was first visited on the morning of the 9th inst., when symptoms of the most alarming exhaustion were present: she stated, in a scarcely audible voice, that she had suffered under profuse hemorrhage during the night; that the placentæ were yet retained, but that the flooding had ceased for some hours; and that there had not been any bandage applied after the birth of the twins. As the

patient was apparently moribund, and in a state of extreme wretchedness, such suitable stimulants as could be procured were administered, aided by ergot, the application of the roller, warmth to the extremities, and care taken that no further loss of blood should take place; but the urgent symptoms of approaching death deterred me from undertaking the removal of the placentæ. The result was as anticipated, and the poor sufferer expired shortly after she had been visited.

Case II.—M. H. has had slight discharges of blood, per vaginam, during the past five weeks, and has now reached the full period of pregnancy for the fourth time.

On the 15th of December I was hurriedly called to this woman's aid, who was extremely exhausted by profuse loss of blood, which had recurred frequently during the night, accompanied by slight labour pains, and proceeded so far as to occasion symptoms of the most imminent danger. Wine was cautiously given: the hand introduced into the vagina, which was filled with coagula; the soft parts were found much relaxed, and the os uteri so dilated as to admit the hand with ease by the edge of the placenta, which was found presenting. The child was turned without further delay, and when the legs had been brought into the vagina, the body was then expelled by the natural efforts. The placenta quickly followed, together with a large quantity of coagula; the uterus contracted well and firmly, no untoward symptom followed, and the woman made a good recovery, although, for a time, her blanched and sallow countenance gave decided indication of the injurious consequence of the loss which she had sustained.

Case III.—Mrs. S., supposed to have come to her full time, being pregnant of her fifth child, was suddenly attacked with flooding, at an early hour in the morning, which continued during the day. She was attended by an ignorant midwife, who merely employed acid drinks, and wine occasionally. At visit in the evening, she was found in the last stage of exhaustion, exhibiting the fearful train of symptoms—incessant restlessness, sighing, urgent entreaties for the free access of cold air, and a supply of cold drink; occasional low delirium and faintness, with frequent complaint of heat and pain of head, and ringing sounds in the ears. Upon examination, the os uteri was found slightly dilated, so as to admit one or two fingers, and the vagina filled with clots. The vagina being emptied, and the hemorrhage having ceased, the plug was immediately employed, warmth applied to the extremities, and stimulants

given with care. However, no rally took place, and the patient sank without further loss of blood externally, having expired immediately after having made an excited and feeble effort to sit up in bed.

No post-mortem examination was allowed; but a mere manual examination satisfactorily ascertained that the fatal hemorrhage was the result of a placental presentation.

Case IV.—Mrs. W., first labour; visited on the 2nd of May, at 2 o'clock A. M. The liquor amnii has been draining off for the past six days, but labour pains did not come on until within the last sixteen hours, and have since recurred at regular intervals. The progress of the labour being tedious and unsatisfactory, probably the result of a thick and unyielding state of the anterior lip of the os uteri, whilst the head presented naturally,—gentle pressure was made with the fingers against this part, during a pain, until it was withdrawn above the head, and full dilatation of the os uteri effected. Aperient enemata were employed as auxiliaries, and, by these means, strong labour pains induced, yet the head remained stationary. Although the pulsations of the fœtal heart could not be heard, the forceps and tractor were carefully employed to aid the descent of the head, when it appeared that the natural efforts were insufficient to complete the labour, but in vain; the delivery of the head was found impracticable, and the crotchet was at last resorted to, under circumstances unequivocally calling for such interference. As the placenta was unduly retained, by hour-glass contraction, above the neck of the womb, it was necessary to introduce the hand for its removal. In a few minutes after the removal of the placenta, alarming flooding followed, whilst every possible precaution was being used to prevent such a casualty. The free use of cold water, cold air, pressure above the fundus uteri, arrested the flow of blood temporarily, but it recurred again in a continued stream, so that life must soon have ebbed away, had not the hand, being promptly introduced within the uterus, secured firm and permanent contraction, and so arrested the flooding. Subsequent recovery was favourable and progressive.

Case V.—A strong and healthy labourer's wife, having been confined of her seventh child, made a good recovery, and left her bed on the fifth day; unfortunately, on the following day she suffered under extreme alarm, occasioned by seeing her husband engaged in conflict with his neighbour; she immemediately became faint, and, whilst in this state, flooding came

on. The discharge of blood ceased after a little time, under the influence of cold applications and rest, but recurred so violently on the next day as to occasion much exhaustion.

This woman was first visited on the third day after the hemorrhagic attack, and the eighth after confinement: she lay upon her back; the countenance pale, sallow, and of anxious expression; although there was continued stupor, yet, when loudly interrogated, she answered quite correctly; the surface of the body generally was moist; pulse 100 to 110, soft and compressible; respiration laborious; breasts small and flaccid; abdomen full and soft, but free from pain or tenderness; the secretion of milk and lochial discharge both arrested. The last return of hemorrhage was followed by vomiting and convulsions, but these symptoms have not since recurred; the tongue is loaded and moist; thirst urgent; bowels free.

Symptoms progressively became more unfavourable: the pulse became small and rapid; tongue dry and brown; abdomen tympanitic, and tender under pressure in the right iliac region. Towards the termination of the disease, very tender, painful, and circumscribed tumours occupied the inner side of the wrist of the right arm. Pure typhoid symptoms became predominant, and the patient died, in about a fortnight from the occurrence of the shock which led to this fatal result. The treatment consisted in the use of wine and suitable nourishment, with counter-irritation to relieve cerebral symptoms, attention to the bowels, and, at the onset, mild mercurial alteratives and anodyne stupes, when her suffering required them.

Case VI.—M. B., a strong, healthy, young woman, has been in labour for some hours. The feet were found low in the vagina; the soft parts so well dilated that nothing was necessary, apparently, to complete the labour but effective pains, as uterine action had been suspended for some hours previous to my visit. The feet were now readily brought down; slight pains expelled the body of the infant, but the usual delay occurred in the delivery of the head. The birth of a still-born child, however, was effected in about forty minutes from the time when assistance was first given. The placenta being retained beyond the usual time, an examination was made, when it was found that a ring stricture, which existed at the neck of the uterus, occasioned its retention. The stricture soon yielded to gentle dilatation with the fingers, the placenta was expelled by the natural efforts, but in about fifteen minutes after its expulsion a fearful flow of blood followed, wholly unaccompanied by pain. The usual appliances, cold air, cold water,

ergot, and continued steady pressure made from above the fundus uteri downwards, succeeded in arresting the hemorrhage, and saving the life of the poor sufferer, who was altogether ignorant of what had occurred.

Unquestionably, hemorrhage is one of the most alarming and most dangerous complications to which the parturient female is liable. Whilst hemorrhage may occur during the progress of any labour, however favourable as to its progress in every other respect, experience proves that it is most likely to occur where there is a plurality of children.

The first case which I have given affords a sad illustration in proof of this opinion. Here the birth of the first infant was not unduly protracted, but, unfortunately, the delivery of the second was too long neglected, thus favouring an atonic and exhausted state of the uterus, directly leading to retention of the placentæ, and fatal flooding as the result. The circumstances in which this patient was found at the first visit were truly appalling, and exactly such as to occasion the deepest anxiety upon the part of her medical attendant, as to *what was his duty under these circumstances?*—the poor sufferer apparently moribund, the placentæ retained for some hours, the external hemorrhage arrested, as the result of mere collapse, or exhaustion of the system; whilst the moderate size of the uterus contra-indicated internal or concealed hemorrhage. These were the indications, clearly pointing out the necessity for extreme caution in using manual interference for the removal of the placentæ. One ounce of blood lost during such interference might at once extinguish life; whilst, on the other hand, there remained a faint hope that the temporary aid of stimulants might enable the system to recover from the shock it had sustained, and so place the patient in a state much more favourable for undergoing the necessary operation of removing the placentæ. Immediate interference was attended by the risk of immediate death, whilst no existing symptom forbad *a little delay;* and, in so doing, opportunity was obtained for the employment of such remedies as might best tend to sustain and re-invigorate the exhausted vital powers. The latter course was thought the most prudent, and so adopted, but without ultimate success. Every available means were employed to support life, excite uterine contraction, and prevent further loss of blood, with a view to the removal of the placentæ, so soon as the patient appeared in a state fit to undergo such interference; but the shock to the system was too great, and the exhaustion induced too profound to be resisted by any remedial means.

I have removed the placenta under exactly similar circumstances, where the birth was single, and the woman young and healthy, yet she did not survive the operation more than an hour, and sank exhausted without further loss of blood. It may be objected that the ergot, by reason of its sedative influence, was not suited to this case. In answer, I would reply that I trusted to wine and other fit stimulants to obviate the sedative effect of the ergot, hoping that its specific operation in inducing uterine action might be thus happily obtained, in a case of such extreme urgency.

In contrasting the second case with the first recorded, we have a striking proof of the complete success attendant upon judicious interference, exercised at the proper moment. The lesson taught is as obvious as it is instructive,—timely and prompt assistance, in one instance, instrumental in preserving life; whilst, on the other hand, the absence of such aid becomes a cause of the loss of life. In the second case, the woman's life depended altogether upon the speedy termination of the labour, and this consummation, so much to be desired, was accomplished by turning and delivering the child, thus expediting the expulsion of the placenta, permanent contraction of the uterus, and the complete and permanent arrest of uterine hemorrhage. Here it may be truly stated that the accoucheur's promptness of decision and skill in acting are never so severely and seriously tried as under the circumstances just described, when but a few moments are left him to decide as to whether he will allow his patient to die undelivered, or attempt the delivery at a moment when he has just cause to fear that she has not strength to survive the operation, but may *die in his hands*. The responsibility of this trying hour can never be duly estimated by any one who has not been compelled to reason, to decide, and to act with energy and promptness upon that decision, within the brief space of a few fleeting minutes, under the full persuasion that any error in judgment or practice upon his part may occasion the death of his patient. To lay down fixed rules for such emergencies would be equally rash and unprofitable. Hence it becomes more imperative that the practitioner in midwifery should be fully qualified in every respect for the efficient discharge of his most important duties in such overwhelming emergencies.

The third case but too forcibly exhibits the sad consequences of ignorance and inactivity upon the part of the unfortunate patient's attendant, in the hour of extreme need: since there is no reason to doubt that, by expediting the delivery, and securing the expulsion of the placenta, and efficient

contraction of the womb, the patient's life would have been saved.

The fourth case indirectly proves the advantage of preserving the membranes unbroken to an advanced period of the labour, as there is little room to doubt that the too early discharge of the liquor amnii, together with the advanced age of the patient, operated injuriously on the progress of labour, rendering it more slow and lingering than it would have been under ordinary circumstances. I have found that in many cases of slow dilatation of the os uteri, the pressure of two fingers against the unexpanded or undilated anterior lip of the os, made occasionally during a pain, has had a decidedly good effect, tending directly to promote full dilatation, and thus to obviate the ill effects of unduly protracted labour. This practice has been opposed by good authority, I am aware, so that I merely venture to give the result of my own experience upon what appears to me a subject of considerable practical importance. In passing, I would observe that, in very many instances, it would appear we have the power, to a certain extent, of directing, or, as it were, concentrating the expulsive efforts of the uterus towards a certain point; and that, under certain circumstances, we may exercise this power much to the advantage of our patient. Frequently have I found that, where the placenta has been retained for several hours, through mere atony of the uterus, simply dilating the vagina and os has proved quite sufficient to excite vigorous uterine action and speedy expulsion of the placenta. Again, in lingering labour, with thick, soft, and unexpanded anterior uterine lip, I have no doubt that dilatation of the os and a favourable termination of labour may be promoted by aid, *judiciously given*, as already suggested. The irregular uterine contraction which followed the birth of the child is, unfortunately, a frequent occurrence in impracticable labour, and is an untoward event, which we may reasonably fear when the uterus has been called upon to make protracted, powerful, and unavailing efforts to expel its contents.

In such cases it becomes a question of moment, whether we should defer the removal of the placenta, as is usual, for an hour, or interfere more promptly where we have cause to fear uterine exhaustion, and irregular contraction, as its consequence? The longer engaged in the practice of midwifery, the more fully shall we be convinced that *sound principles*, rather than *strict rules*, must guide us in the management of every individual case.

Although much zeal and ability have been lately expended

in advocating a different plan of treatment in cases of placenta prævia, from that which is here advocated, I am obliged to state candidly that my judgment is not yet fully persuaded of the propriety of changing the mode of treatment which hitherto I have successfully carried out for many years. It is scarcely necessary to observe, that these remarks refer solely to the management of placental presentations, occurring during labour, at the full period of pregnancy.

The fifth case affords an instructive example of fatal uterine hemorrhage, occurring on the sixth day after delivery, under the influence of strong mental excitement. The depressing influence of the mental shock, together with that induced by excessive loss of blood, were causes but too well adapted to induce the fatal form of disease under which this poor woman sank. We are again reminded by the sixth case how seldom we meet with a *solitary deviation* from the natural course of labour; here we find a footling case complicated with hour-glass contraction of the uterus and post-partum hemorrhage.

In addition to these brief remarks, I shall only add that the management of the parturient female, immediately after the completion of the third stage of labour, has always appeared to me a matter of the utmost moment as regards the interests of the patient. Too often during the joy and excitement naturally consequent upon "a safe delivery," and the birth of "baby," friends forget for a time the very critical circumstances of the mother, whose life's blood has, upon some unhappy occasions, ebbed away whilst surrounded by rejoicing friends.

Most important directions as to the management of the placental stage of labour are to be found in the various treatises upon the subject of midwifery; but, perhaps, none have given more explicit or important directions upon this subject than Drs. Sinclair and Johnston, in their "Practical Midwifery."

During a period of five-and-twenty years I have followed the plan of treatment advocated by them, in dispensary and private practice, and feel more fully convinced every day that the best and safest practice, in every case, is to secure, by manual pressure, efficient and permanent contraction of the uterus, *before* the binder is applied. To avoid being misunderstood, I will just state that, so soon as the child's head is born, whether by the natural efforts or by instrumental aid, the nurse is directed to attend to the expulsion of the body and limbs, whilst with my right hand the perineum is guarded, and the contraction of the uterus duly attended to by proper manipulation with the left, consisting in gentle continued pressure made over the fundus uteri with the open hand, from above down-

wards, ever carefully varied according to the condition of the uterus, and the symptoms present; the child being born, the right hand is then free to examine the pulsation in the cord; direct when the nurse is to divide and tie it, and, at the same time, indicate exactly, with the finger and thumb, where the ligature is to be applied, inspecting every step of the operation as the nurse proceeds. If matters go on favourably, manual pressure is given up, and the binder applied in twenty or thirty minutes after the completion of labour. On the contrary, if hemorrhage has occurred, or is threatened, the guarded pressure with the left hand is continued for an hour after untoward symptoms have disappeared, and the binder then put on, aided in some instances by a pad, so judiciously applied as to assist in keeping up uterine contraction.

The general interest which this subject is invested with is my only excuse for intruding my opinions or practice upon the attention of others.

Art. XV.—*Pathological Researches.* By B. Wills Richardson, F. R. C. S. I., Member of the Court of Examiners of the Royal College of Surgeons in Ireland; one of the Secretaries to the Surgical Society of Ireland; Surgeon to the Adelaide Hospital.

(*Continued from* vol. xxvii., p. 281.)

4. EXCISION OF A PORTION OF THE LOWER JAW; RAPID RECURRENCE OF THE DISEASE AFTER THE OPERATION.

Sarah Barter, aged 28, a dark-complexioned woman, admitted into the Adelaide Hospital on February 6, 1859.

Ten weeks before this she was attacked with pain in two of the left back teeth of the lower jaw, which pain not subsiding, she had, at the expiration of a month, one of these teeth extracted. Scarcely any blood was lost from the operation. A day or two after the tooth was removed she, for the first time, perceived "a lump on the gum," corresponding to its empty alveolus, and a discharge of matter from the socket itself.

One fortnight after the first tumour was discovered she perceived "another lump" on the gum over the posterior surface of the same alveolus. Both tumours grew rapidly; the posterior one, however, more so than the other. Both bled freely, particularly when handled, and they were not painful except on these occasions. The pain was of a "stinging" character, and more severe in the gums than in the tumours.

She never met with an injury of the jaw, and is quite positive that the tumours first made their appearance at the periods above mentioned. Subsequently she began to lose flesh and strength, so that she was induced to seek admission into hospital.

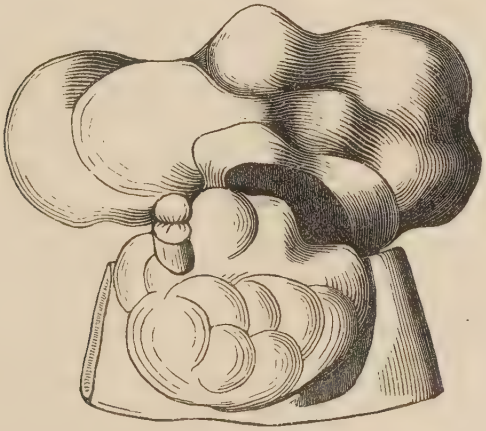
Present symptoms, March 1, 1859: Countenance of a sallow hue; dark brown eyes; left side of face, corresponding to lower maxilla, is prominent, but not discoloured, forming a swelling about the size of a Spanish chestnut. The edge of the jaw immediately beneath this eminence is slightly thickened and tender to the touch. On opening the mouth it was at once evident that the protuberance of the cheek was caused by a growth from the external surface of the lower jaw. This tumour was somewhat pedunculated, and its connexion to the jaw corresponded to about the posterior bicuspid and first molar teeth. It was, of course, somewhat less in size than the swelling of the cheek, was whitish, pretty firm, and nodulated on the surface, and, on further examination, was found to be connected by a narrow isthmus of a softer structure, springing from the absorbed alveolus, with another large, soft, fungoid, dirty-whitish, pedunculated mass. This latter tumour occupied the greater part of the floor of the mouth, and covered nearly the whole tongue, rendering articulation indistinct. It extended backwards to the soft palate; its attachment to the gum corresponded to that of the anterior tumour, and descended to within half an inch of the margin of the bone. One tooth is quite loose, and partly imbedded in the connecting portion of the tumours. The posterior growth bleeds upon the slightest handling, and both are very sensitive to the touch, which is followed by stinging pains in the bone corresponding to their attachments. The lymphatic glands are not enlarged, neither are the soft parts adherent in any situation to the tumours. Pulse 104; bowels regular; tongue clean; urine free from albumen.

Although the history of this case led to the strong suspicion that the tumours were malignant, yet, when we took into consideration that non-malignant growths of the lower jaw have been observed, with symptoms somewhat similar; and when we also considered the narrow connexion of the tumours with the bone, as well as the apparent freedom of the neighbouring soft parts and lymphatic glands from contamination,—we felt justified in recommending an operation, and that success would most likely be obtained by excising a portion of the jaw, so as to insure as complete isolation as possible of the attachment of the tumours. In this opinion our consultant, Mr.

Smyly, agreed. Accordingly, the operation was performed on the 2nd of March last. The patient was kept under the influence of chloroform, in a semi-recumbent position, whilst the first incisions were being made. The knife was passed down the centre of the lip to the chin, and next, horizontally, towards the angle of the jaw. The flap having been raised, the tumours were seen perfectly free from connexion with the neighbouring parts. I now removed two teeth, one at each end of the alveolar attachments of the tumours, then freed the bone for the saw. In this case I did not use the chain-saw, having seen it lock and break on one or two occasions, but employed the small tenon-backed saw, similar to that figured in Mr. Fergusson's Surgery. With this instrument the bone was divided in a few seconds.

Fig. 7 is a correct representation of the tumours, with the portion of the jaw from which they sprang, the larger mass

Fig. 7.



being the posterior growth which lay over the tongue. It is unnecessary to detail the subsequent steps of the operation and after-treatment; suffice it to say that there was scarcely any blood lost, and that a considerable portion of the wound was united in a few days.

An examination of the tumours was made immediately after the operation. When cut into, they had, to the naked eye, all the appearances of medullary fungus, and the microscopic examination showed that the mass was composed of a mixture

of cells of various shapes and sizes, having remarkably large nuclei. Some of these cells contained two nuclei, and others were apparently undergoing a process of fatty degeneration, being loaded with oil globules. In Fig. 8 these structures are carefully and correctly illustrated, and contrast remarkably with

Fig. 8[a].

the small round and oval nuclei of the medullary diseases, represented in my former communication in this Journal[b].

The ligature of the facial artery came away on the 24th of March, after which she was sent to the country, the wound being all healed, with the exception of the site of the ligature. She again presented herself at the hospital in a few days, when it was evident that the cut extremity of the anterior portion of the jaw was enlarging rapidly, and that a growth of some kind was occupying the gap. She now complained of a neuralgic pain in the back of the right thigh.

May 20. A great change has taken place in both her general and local symptoms. A large bleeding fungus occupies the site of the operation; her cachexia is extreme. A flat tumour has made its appearance between the right tuber ischii

[a] Examined with Smith and Beck's one-fifth, and magnified 240 linear.
[b] Vol. xxvii., page 279.

and great trochanter, apparently engaging the sciatic nerve, and causing the most severe neuralgia. Pulse frequent. The only treatment now applicable was the administration of anodynes, supporting the strength, and the local application of styptics.

She lingered until the 23rd of July, when death put an end to her sufferings, the fatal termination having been hastened by the hemorrhage from the new fungus in the mouth. A post-mortem examination could not be obtained.

I have not hesitated to place this case on record, as I believe, notwithstanding we have arrived at the middle of the nineteenth century, that we are sadly deficient in trustworthy statistics of operations for malignant disease. The vast majority of the members of our profession are tempted, through unintentional prejudice, to give us only the "sunny side" of the picture, and to suppress the recurrent cases; and when they do publish their *successful* operations for cancerous disease, these are generally published too soon. Moreover, "doubts," as Dr. Bennett observes, "must always exist regarding such cases so long as no authentic record is preserved of the minute examination of the tumour removed. Every experienced surgeon who adopts a favourable or unfavourable view of this question can point to crowds of cases in support of his opinion; but when he is asked whether the growths operated upon be truly cancerous or not, it will be found that there are no positive grounds on which to form a conclusion. He *considered* it to be cancer,—nothing more."

5. FOREIGN BODIES IN THE EYE.

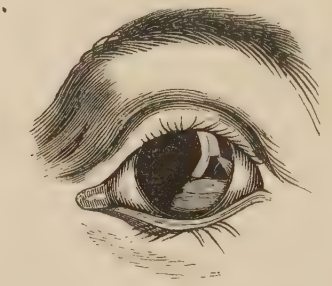
The subject of this case was an out-pensioner of Greenwich Hospital, and one of the few surviving heroes of the battle of Trafalgar, where he fought under Lord Collingwood in the "Royal Sovereign," the first ship to engage the enemy and break their line. The following is a short account of his history:—

James Graham, aged 71, pensioner, admitted into the Adelaide Hospital, February 15, 1859, with an inflamed bunion, corresponding to the metacarpo-phalangeal joint of the left great toe. This subsequently yielded to rest, poulticing, and laxatives.

My attention was attracted to the state of his eyes, one of which, the right, was collapsed, and covered by the closed lids. The left eye, however, presented some remarkably interesting appearances.

On looking through the cornea, three foreign bodies were distinctly observed behind it. The cornea itself is very clear, excepting at its circumference, where it is somewhat degenerated. The iris has disappeared; but behind the margin of

Fig. 9.



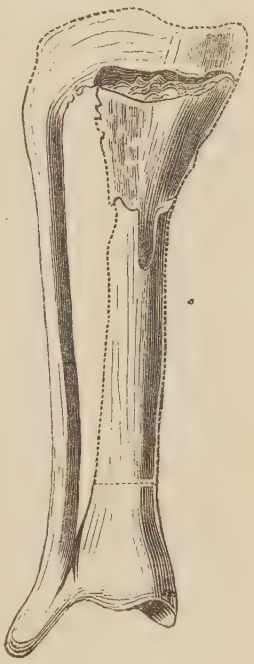
the cornea, there is a narrow band, resembling a portion of that structure. The foreign substances are, therefore, situated in a cavity resulting from the anterior and posterior chambers being thrown into one by the removal of the iris. The extraneous bodies are apparently incapsulated by a delicate membrane, which is most evident inferiorly. Entangled with the foreign substances is a piece of pigmental epithelium, or, possibly, a portion of the iris, having its pigmental surface anterior. Vision is very fair, and he can read the smallest print with a double convex lens, and at present works as a saddler.

Graham, having escaped injury at the battle of Trafalgar, subsequently entered the Royal Artillery, in which branch of the service he remained until our struggle with America, when he re-entered the Royal Navy, and was sent to Canada as a petty officer, and formed one of the crew of the Detroit in the action with the Americans on Lake Erie in 1813. He was standing near Captain Barclay when some splinters, broken off by a round-shot, struck his right eye and destroyed it; others passed through the bridge of the nose and entered the left eye, where they still remain, and are represented in Fig. 9. Having been taken prisoner, he was placed under arrest, but he was not submitted to any treatment: no mercury, no bleeding. After the expiration of four days, some sight returned in the eye, which gradually improved, being an admirable instance of nature's surgery, for, with the exception of the escape of some pieces of bone from the nose, his cure was rapid and uninterrupted.

6. INTRA-UTERINE PERIOSTITIS; NECROSIS AND SEPARATION OF THE UPPER EPIPHYSIS OF THE TIBIA.

I am indebted to Dr. M'Clintock for the interesting and valuable specimen of intra-uterine disease represented in Fig. 10.

Fig. 10.



E. A., aged 30, the mother of the infant from whom this preparation was obtained, was confined of this, her fifth child, in the month of June, 1858. She had been ten years married, and all her other children were born alive and healthy. She was not conscious of having received any fright or injury to account for the disease in the child's leg.

The child, a full-grown male, was born dead at the full term, but to all appearance had been recently alive. Attention was at once drawn to the swollen and inflamed state of the right leg, which presented a distinct sense of fluctuation both anteriorly and posteriorly, and had a middling-sized bulla below the patella, the whole presenting a well-marked erysipelatous appearance. On making an incision into the diseased parts, a large quantity of pus was discharged. When the matter had been all removed, it was found that the soft parts, corresponding to the greater portion of the tibia, were completely disintegrated, scarcely any trace of muscular structure being discernible. Further examination discovered that almost all the tibial periosteum was in a sloughy condition, and had separated from the bone, the latter being whiter than natural, and necrosed. A small extent, however, of the membrane, inferiorly, was intensely inflamed, but still adherent to the bone. Superiorly the tibial epiphysis was almost completely separated from the shaft, being merely connected to it by a few shreds of membrane. The dotted lines in the illustration mark out the necrosed portion of the tibia, as well as the detached epiphysis.

As a specimen of intra-uterine disease, this case is of great

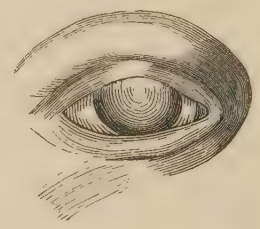
interest, and well worthy of being recorded. Whether it was originally a case of superficial inflammation, subsequently engaging the deeper structures, or a case of periostitis, or osteitis followed by disease of the neighbouring soft parts, I will not take upon myself to say: suffice it to mention that the pathological appearances presented a strong analogy to some of those cases of periostitis, with sloughing of the membrane, occasionally met with in the child or adult.

7. CONGENITAL OPACITY OF THE CORNEA, WITH ADHESION OF THE IRIS.

I am likewise indebted to Dr. M'Clintock for the coloured drawing (by Conolly) from which the accompanying illustration is copied. The drawing I exhibited at one of the meetings of the Surgical Society of Ireland[a].

The mother was a patient in the Lying-in Hospital, where the child was born alive and healthy. On examining its eyes, it was found that the right cornea was whitish and opaque. In addition to this change in the structure of the cornea, it was adherent at its posterior surface to the iris. The opposite eye was perfectly healthy.

Fig. 11.



These two cases cannot fail to interest those who have studied the diseases of the human fœtus, and they illustrate, in a remarkable manner, the similarity between some, at least, of the diseases of the fœtus and those that occur after birth. In the first case we have the characteristic appearances of a disease that may occur at any period of life; and, in the second, a change in the structure of the cornea, or, possibly, a new structure altogether, with adherent iris, probably the result of a morbid process identical with that which also takes place in either the child or adult. It would not be safe, however, to speak too positively as to the actual structure of this opaque cornea, a histological examination being necessary to decide the point, at least with accuracy.

[a] Dublin Medical Press.

Art. XVI.—*Contributions to the Surgical History of Syphilis.* I. *On Syphilitic Fungus of the Testicle.* By James F. West, Surgeon to the Queen's Hospital, Birmingham.

The occurrence of fungus of the testicle as one of the sequelæ of syphilis is sufficiently rare to warrant the detailed narrative of two cases of this interesting form of disease, which it has fallen to my lot to witness,

Mr. de Meric, of the Royal Free Hospital, London, while relating the history of a case which came under his notice[a], says that "he considered that this symptom had not previously presented itself to any surgeon, judging from the silence of authors who have written on the syphilitic disease," until he read the notes of a case which is reported by M. Rollet, Chief Surgeon of the Venereal Hospital at Lyons, and which he proceeds to give *in extenso*. The credit of having elucidated this symptom of secondary syphilis he thus appears to attribute to M. Rollet. However, the subject has received great attention from Mr. Hamilton, of the Richmond Hospital, Dublin, and to him we are indebted for a very able and complete description of the symptoms and pathology of syphilitic testicle.

I cannot think that this disease is so very rarely met with as one of the manifestations of constitutional syphilis, though, owing to the early period at which it is usually presented to our notice, and to the more improved method we have of dealing with it, we do not find it often proceeding to extensive disorganization, with consequent entire extrusion of the testis from the scrotum.

Testes so affected are generally amenable to treatment, and rarely call for removal by the knife, and, therefore, we have very seldom opportunities of examining them as pathological specimens. The destruction had, in the two cases which I am about to relate, proceeded to so great an extent that the testes had entirely lost their virile power, the fungus had arrived at such a size, and was so thoroughly adherent to the scrotum over a large extent, that it would have been impossible, even after slicing away a large segment of the testicle, according to the recommendation of Professor Syme, to have secured a sufficient quantity of the scrotum to form a covering for the remaining portion of the testes; and, moreover, the health of the patient was in each case so much deteriorated by long-continued discharge, and by often recurring hectic, that some decided

[a] *Vide* Lancet, March 19, 1859.

steps were necessary to prevent the patients dying before any local measures of relief could be adopted.

The first case occurred in the practice of my esteemed colleague, Mr. Langston Parker, and to his kindness I am indebted for the permission to bring the history under the notice of the medical profession. The second was under my own immediate care, in the wards of the Queen's Hospital, about two years subsequently. Both afford very marked evidence of the syphilitic cachexia; and although in the first case the phenomena of secondary and tertiary syphilis were not absolutely present at the time of the attack of the fungus of the testicle, still, they had undoubtedly shown themselves more than once since the existence of the primary sore, and in the second case they were found to exist simultaneously with the onset and progress of the syphilitic disease in the testicle, and even to recur after the wasted and inert organ had been removed.

Case I.—James Herrick, aged 24, labourer, was admitted into the Queen's Hospital under Mr. Langston Parker, September 23, 1856.

He states that, eight months ago, his testicles were squeezed by a man with whom he was "*larking*." He immediately fainted, and subsequently great pain and swelling came on. These symptoms were speedily relieved by warm applications, and he suffered nothing further for three months: pain then recurred, and has continued more or less ever since, and, about a month ago, a small "*boil*" formed on the anterior aspect of the left testicle. This soon suppurated, pus was discharged, and an ulcer formed in this situation which has since remained. His health is now considerably deteriorated, and he looks pale and delicate: both testicles are enlarged, and very sensitive to the touch; the left is as big as a man's fist, and on its front is found an ulcer, the size of a shilling, with bluish, unhealthy, indurated margin; the scrotum, being at the edges of the ulcer, firmly adherent to the testis. He had syphilis (sores and bubo) some seven years ago, and has since suffered with sore throat, and scaly cutaneous eruptions, at various times.

He was ordered full diet; to have a bread poultice, to which one drachm of liquor plumbi subacetatis was added, applied three times a day, and to take ten grains of Plummer's pill each night; no perceptible improvement took place during the first ten days in the left testicle, but the right became smaller and softer. More active mercurials were then ordered, and a weak lotion of lunar caustic in place of the bread poultice with liquor plumbi. By October 11th the man was thoroughly under the influence of mercury, but the left testicle was much worse;

another ragged ulcer had formed below the previous one, and the testis was very much enlarged. Wine and nourishment were freely given to the patient, who now began to need much support; the mercury was stopped, and also the astringent lotion, and in its place a poultice, composed of equal parts of charcoal and linseed meal, was used, but all without benefit, for the ulceration, attended with profuse suppuration of a fetid character, and in which no spermatozoa could be found, continued, until at last, on the 18th inst., the testicle was completely denuded of its scrotal covering.

On that day Mr. Parker determined, after consultation with his colleagues, to perform castration, and accordingly he removed the testis by an oval incision, which included a considerable extent of the unhealthy scrotal integument around the ulcer (having previously passed a needle, armed with a double ligature, through the cord, and tied the spermatic vessels *en masse* between the two knots), and then divided the cord above the point of ligature. Comparatively little blood was lost, and the lips of the wound were approximated by four sutures, and strapping applied as soon as all oozing appeared to have ceased.

Three hours after the patient had been removed to bed, bleeding of a fluid arterial character came on: a saturated solution of alum, ice, and pressure over the whole surface, were employed, but without success; the hemorrhage became violent, and it was therefore necessary to remove the straps of the sutures, and to seek for the bleeding vessel. Blood issued, *per saltum*, from the cord, but, as its exact source could not be determined, Mr. Parker preferred applying pressure over the cord, higher up towards the internal abdominal ring, by means of a large branch tourniquet. This proceeding soon checked the hemorrhage, and scarcely any blood was lost afterwards.

The loss of blood had seriously lowered the man, and more than once he was at the point of death through syncope, but was restored by wine and brandy. Towards night he rallied a little; the wine which he had taken disagreed with him, and he was violently sick. The parts were left exposed to the air, and iced water kept constantly applied. He was ordered to take half a grain of the muriate of morphia at bed-time, and an ounce of a mixture containing one drachm of sesquicarbonate of ammonia, dissolved in eight ounces of water, every third hour, in effervescence with ten grains of citric acid.

October 19th. He passed a restless night, and complained constantly of the tourniquet: no alteration in its situation was made, and the man was requested to rest as quietly as possible

in the recumbent position. The catheter was necessary in the morning, and again at night.

On examination, the testicle was found to be entirely altered in texture, and very much hardened in consistence; scarcely any trace of the tubuli seminiferi remained, but throughout the body of the testis and also the epidydimis, tubercles of yellowish lymph, irregular in form, and almost cartilaginous in substance, were observed; the outer surface of the testis was coated by a layer of recent fibrinous granulations, to the extent of about a quarter of an inch, and the tunica albuginea and tunica vaginalis were so adherent to the testis in nearly every part as to appear almost an integral part of it.

October 20th. As there was no appearance of bleeding, the tourniquet was loosened.

21st. Suppuration is commencing about the wound, and slight purulent discharge occurs from the urethra when the catheter is passed. He looks less anemic, and has evidently more power; straps of adhesive plaster were used to bring the parts somewhat into position, but, owing to the size of the right testicle, the retraction of the integument, and the amount of clot not yet discharged, this was somewhat difficult. The tourniquet was now removed. He was ordered a mutton-chop and a pint of porter.

22nd. Going on well; suppuration copious and healthy.

23rd. Straps were removed, and fresh ones applied, the parts being almost approximated; his bowels have not been moved since the operation, and his urine, which he passed yesterday without assistance, is now retained; to have ten grains of compound rhubarb pill immediately, and to have a catheter introduced.

24th. Going on well; urine passes freely; bowels actively moved.

25th. Parts can be brought together without difficulty; copious discharge of healthy pus; he feels stronger and can move about in bed; appetite good; bowels regular; urine abundant and free.

28th. Health good; fresh straps are applied each day, and the parts brought well into apposition; a small yellow spot of ulceration which exists on the inner side of the right testicle is to be touched with sulphate of copper.

November 1st. The ligatures have not yet come away; parts are now nearly united; discharge very slight; the spot of ulceration before noticed is smaller; sulphate of copper to be again applied.

3rd. The spot of ulceration on the other testicle is gone,

and the whole extent of the line of incision abounds with healthy granulations; very little discharge; ligature still firm; he eats, drinks, and sleeps well.

7th. Granulations have almost filled up the wound, but the ligatures remain; the other testicle is smaller and free from pain.

11th. The ligature came away to-day; the wound is healing fast.

18th. Only a space about the size of a crown-piece now remains unhealed; the right testis is about its normal size, and is apparently free from disease; his colour has returned, and his health is excellent.

23rd. Nearly the whole surface is now cicatrized; his health is good, and his virility is unimpaired.

30th. Quite well; discharged cured.

Case II.—George Dodd, aged 30, married, railway policeman, was admitted into the Queen's Hospital, under Mr. West, September 29, 1858.

Previous History.—He states that, during his youth, he contracted gonorrhœa two or three times, and that, in the year 1854, he had a sore on the glans penis, which he describes as having a hard, cartilaginous base: this sore remained unhealed for two months.

Eleven months after that time a snow-ball which was thrown at him struck his left testicle, and gave rise to great pain and swelling of that organ; leeches and rest subdued the inflammation, and the testicle got comparatively well; however, at times slight swelling would recur, and on one occasion the skin of the scrotum became adherent to the testicle. This state of things continued for two years and a half, when, after exposure to cold and wet, he got into a low, weak state, and began to suffer from sore throat and an eruption on the skin. Nitrate of silver was used to the throat, but without effecting a cure, and two months before admission, while the throat was almost at its worst, the skin, where it was adherent to the testicle, "broke into a sore," and almost immediately fungous granulations began to sprout rapidly through the opening.

Present State.—The scrotum covering the left testicle is ulcerated to the extent of a crown-piece, and through the opening protrudes a mass about the size of a hen's egg, having a florid granular surface, secreting much pus, and covered to the extent of a sixpence with a thick slough. The posterior part of the pharynx is greatly ulcerated, and covered in places with a dirty ash-coloured slough. He has much pain and difficulty

in swallowing, and his hearing is also considerably impaired on the left side, but there is no discharge from the ear. He is greatly emaciated, and has a very cadaverous appearance; has slight cough, attended with muco-purulent expectoration; he has a very suspicious coppery scaly eruption on various parts of the trunk, and an excavated circular sore, with hardened callous edges, on the right side of the neck. Ordered full diet. The following wash to be used frequently: solution of subacetate of lead, a drachm; sulphate of zinc, ten grains; water, eight ounces: dissolve. And to take three times daily an ounce of the following mixture: dilute nitric acid, a drachm and a half; camphorated tincture of opium, half an ounce; and decoction of bark to eight ounces.

October 6th. His strength has slightly improved, and the testicle looks rather more healthy, but his throat is still greatly ulcerated. Ordered to have a pint of porter and three ounces of port wine daily; to use hydrochloric acid gargle, and to have ten grains of Plummer's pill every night and morning.

13th. His throat is no better, although his general health is improved. Ordered to have strong hydrochloric acid applied; he is completely under the influence of mercury; the ulceration of the scrotum increases, and the fungous protrusion appears larger. Ordered to omit the pills, but to continue the mixture.

17th. Throat much better, but testicle in same state. To use powdered nitric oxide of mercury to the fungus.

21st. Patient's strength appears to increase, but he begs to be rid of the testis, which gives him great pain and irritation.

27th. No improvement in the condition of the testicle being apparent, Mr. West determined to remove it, and accordingly castration was performed in the usual manner, the cord being secured, *en masse*, with a strong whip-cord ligature, and the incised edges of the scrotum brought into apposition by three silver sutures, and retained by a pad of wet lint and letter T bandage. Very little blood was lost during the operation, and no vessels required ligature; wine was given in large quantities, as the man became very faint, and a dose of morphia was administered on his being taken back from the theatre to his bed. A bag of ice and salt was applied, with a view of preventing hemorrhage during the rest of the day, and it not only had the desired effect, but also appeared to check the pain in the spermatic cord.

Description of the Testis.—The testis was adherent to the integument in every direction, so that it had to be dissected out: the two layers of the tunica vaginalis were adherent, and on section the testis was found to be the seat of numerous de-

posits of fibrinous material, some of them as large as a marble, and others not larger than a pea; between them the tubuli seminiferi were compressed; some of the fibrinous patches were becoming disintegrated, and, under the microscope, the *debris* bore a strong resemblance to miliary tubercle; the deposit was very firm, closely attached to the proper structures of the testis, pale-yellow in colour, very dense and compact, apparently homogeneous in substance, and bearing no evidence of fibrillation. Around the lower part of the testis there was a recent deposit of fibrine, to the depth of a quarter of an inch, but this material was of an entirely different nature to that in the interior of the testis, and was obviously the result of chronic inflammation. The ulceration was perfectly superficial, and no sinuses extended into the interior of the testis. The weight of the organ, when removed, was 2 ounces, 4 drachms, and 36 grains.

28th. The pain in the cord is gone, but there is slight abdominal tenderness; his pulse is 120, and he is feverish and thirsty; no hemorrhage. To take two grains of calomel and one grain of opium, in a pill, every sixth hour; and every fourth hour an ounce of the following mixture in effervescence with half an ounce of fresh lemon-juice: sesquicarbonate of ammonia, a drachm and a half; syrup of orange-peel, half an ounce; water, seven ounces and a half: dissolve.

30th. Tenderness is gone from the belly; the sutures which had caused the slightest possible amount of irritation were removed, and straps and fresh dressing applied; the upper part of the wound was found to have united by the first intention, and there was copious healthy discharge from an opening in the lower part; he is free from fever, and seems very comfortable. Ordered to leave off the pills, and to have a mutton-chop.

November 1st. The wound was again dressed; it looked well; there was no bagging of matter, and no great amount of inflammation about it; he is free from pain and abdominal tenderness, and only complains when the ligature is moved: pulse 80; strength improves daily; throat quite well.

5th. Healthy purulent discharge; no inflammation, pain, or febrile disturbance; he is rather weaker than he was a few days ago, and has very little appetite; his urine is high-coloured, and he sometimes has slight difficulty in passing it. To take, three times daily, an ounce of the following mixture:—Bicarbonate of potash, a drachm and a half; aromatic spirit of ammonia, two drachms; compound infusion of gentian, eight ounces: mix.

11th. The ligature came away upon slight traction being made; the wound, from which there is an abundant discharge

of healthy pus, is healing fast; he feels stronger, and his appetite is improved. To take five grains of compound quina pill three times daily.

18th. Health improves, and appetite remains very good; wound nearly healed; very little discharge.

December 3rd. He left the hospital perfectly cured: the line of incision in the scrotum being firmly cicatrized, and all ulceration having left the throat.

He returned to the hospital as an out-patient on December 23rd, on account of a slight purulent discharge from the left nostril, which evidently proceeded from an excavated ulcer on the septum nasi; a slight copperish eruption, of a papular nature, had also appeared on different parts of the body. To take, three times daily, an ounce of the following mixture:—Hydriodate of potash, a drachm; infusion of quassia, eight ounces: dissolve. In the course of a few weeks the eruption went away, and the ulcers of the nose healed up.

On the 16th of April, 1859, he again applied at the hospital, as he was suffering from ulcerated sore throat, which he said he had felt more or less ever since he left off taking the medicine. The sore on the right side of the neck which he had when he first came under treatment had also broken out again, and was as large as a half-crown. He was ordered to use the ointment of the nitric oxide of mercury, and to take the iodide of potassium as before. In the course of a month he again recovered his health, and he has not since applied for medical relief.

I shall now glance briefly over the salient points of the cases which I have recorded, and endeavour to deduce from them some practical observations as to the pathology of this singular form of disease. And first, as to their nature, no one can, I believe, doubt that these are two genuine cases of syphilitic orchitis, ending in fungus of the testicle. The fact of seven years having elapsed in one case, and four in another, between the occurrence of the primary sore and the first manifestation of disease in the testicle may, perhaps, tend to throw some doubt on the real nature of the attack; but when it is remembered that many of the phenomena of constitutional syphilis had developed themselves at various times, as evidenced by sore throat, skin eruptions, and unhealthy ulcerations affecting different parts of the body, I think the doubt must be dispelled. The syphilitic cachexia had been latent in the system in each case, and only needed the occurrence of some slight injury to the testis to set up in it an amount of aggravated mischief, which ended in its irreparable disorganization.

That the testicle should take on this unhealthy action under circumstances of slight local irritation, is not more remarkable than that those bones which are subcutaneous, as the tibia and the frontal bone, and are thus from their situation most exposed to external influences, should be the most prone to caries and necrosis, in those whose constitution is impaired by the syphilitic virus. The syphilitic testicle, doubtless, begins as a form of chronic orchitis, but the impairment of the vital powers, which always accompanies the development of the secondary and tertiary forms of syphilis, tends to the production of deposits of a tubercular character, which, in the first place, destroy the virile powers of the patient by compression of the tubuli seminiferi, and then set up irritation in the tunica vaginalis and cause union between its layers, so that the scrotum becomes adherent to the testicle; and lastly, in consequence of the degeneration of the ill-formed and lowly organized fibrine, softening and ulceration at some points on its surface take place, the scrotal covering of the testis rapidly gives way, and the fungus protrudes through the ulcerated opening, and is prevented from returning, even if it became greatly diminished in size, by the firm attachment of the scrotum to its edges, and by the contractile efforts which the muscular fibres of the dartos constantly keep up.

The persistence of the syphilitic symptoms in the second case, even after the chief local cause of irritation had been removed, also affords strong confirmatory evidence of the true syphilitic nature of the disease in the testicle. The character of the deposit was singularly alike in these cases, and corresponded in every respect with the description which authors who have paid attention to this affection attribute to it, except as regards the existence of cysts around the tubercles, but these I was unable positively to define.

The history of the cases was strictly analogous. Their onset after the occurrence of slight injuries, which, no doubt, temporarily set up acute orchitis, the subsequent relapse into a condition of chronic orchitis, and their termination also in disorganization of the testis in consequence of the deterioration of the vital powers,—all tend to prove their identity as well-marked cases of syphilitic testicle.

The slight amount of good which the free exhibition of mercury produced appears to militate against the opinion which Mr. Curling sets forth in his excellent work on this subject, namely, that he has "no great confidence in any other treatment than the mercurial in effecting a permanent cure:" but, perhaps, the depressed state of the patients prevented its having the beneficial influence which it might otherwise have exerted.

The absence of the secreting powers of the testes, together with the rapid amelioration of the constitutional symptoms which ensued upon the removal of these organs, justified, in my opinion, the extreme operative measures which were had recourse to.

And now, in conclusion, let me say a few words respecting the only note-worthy point in the operation. The ligature of the cord, *en masse*, though opposed by many surgeons, and even characterized by some as "a barbarous proceeding," was adopted, because it probably causes but little, if any, more severe after-pain, than when the vessels are tied separately, and because it has the great advantage of preventing the risk of retraction of the cord; and, even if hemorrhage does result, it is always small in quantity, and is easily arrested by the tourniquet, as in the first case, and there is no necessity of opening up the wound towards the inguinal ring to secure the bleeding vessel, and subjecting the patient to the fatal result which might ensue were the peritoneal cavity to be opened, as in the case which Professor Fergusson of King's College, London, relates, where a surgeon, in following up the wounded vessel into the inguinal canal, wounded the peritoneum, and death occurred in three days from the inflammation which ensued.

I must add one word in favour of the use of silver sutures. They answered admirably in the second case, causing union of the greater part of the line of incision by the first intention: thus fully warranting the praise which is now being accorded to them by all those surgeons who are having recourse to them in the place of silken or hempen sutures.

(*To be continued.*)

Art. XVII.—*Practical Observations on the Treatment of Aneurism by Compression.* By Samuel A. Cusack, M. B. Lond., F. R. C. S., M. R. I. A., Surgeon to, and Lecturer on Physiology at, Steevens' Hospital.

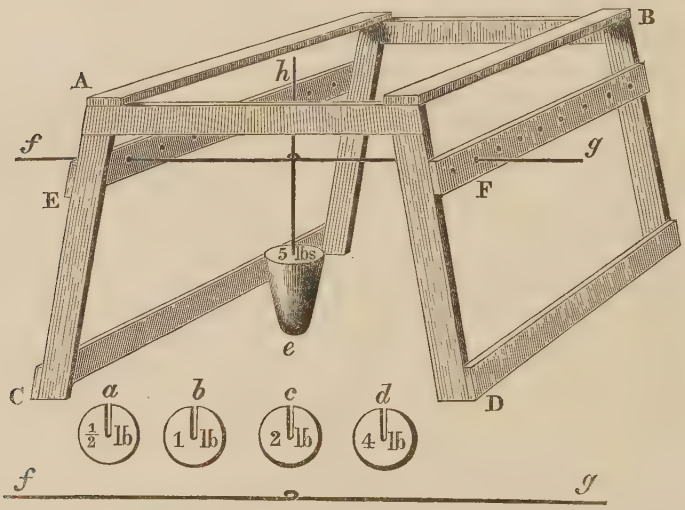
Some sixteen or seventeen years having elapsed since the treatment of aneurism by compression was fairly put upon its trial; and a large number of successful and unsuccessful cases having been published, the time has, I think, now arrived when an attempt may be made, by careful investigation of the causes respectively of success and failure, to arrive at some more definite rules than have yet been laid down for our guidance in carrying out this mode of treatment. That anything like a uniform system has not yet been adopted may be inferred

from the fact that a very different amount of success has attended the practice of different surgeons, and of this country as compared with England. I am further induced to take up this subject from the fact that careful attention to some cases which I have myself treated, and others which I had the great advantage of almost constantly observing during the period that I was resident surgeon in Steevens' Hospital, has led me to think that some modification in the mode of procedure first carried out in this country, as described in the late Dr. Bellingham's work on the subject, might be adopted, with reference to the kind of pressure made use of, as well as to the mode in which it is to be applied. I propose, then, in this paper to treat, first, of some of the causes of failure, in so many cases, of the compression treatment, more particularly in England; second, of the absolute amount of pressure which may be safely employed, and the kind of instrument which I have found most efficacious in applying it; and, thirdly, of the alterations in the duration and amount of pressure which are required in different cases, or stages of treatment.

First then, as regards the causes of so many failures, I think some of them have been owing to the fact that, in the instruments commonly made use of, no means exist for ascertaining the exact amount of pressure in force at any time, excepting the sensations of the patient, and the effect produced upon the artery or tumour: these, though the only guides which have hitherto been available in practice, are, I think, scarcely satisfactory, and, as a result, it has happened in many cases that, on the one hand, ulceration of the seat of pressure, or even gangrene of the limb, has taken place from over-pressure; and, on the other hand, and in many more cases probably, the endurance of both surgeon and patient has been exhausted by insufficient pressure, extending the cure over too long a period. Another cause of failure may have been that, in regulating the amount and continuance of the pressure, due regard has not been paid to the stage or condition of the aneurism under treatment: this, however, is a point to which I shall call more particular attention presently, when speaking of the modification in the mode of applying pressure which I have myself found to be most successful. Sufficient attention has not always been paid to the state of the patient's health and spirits, while, as a consequence, the blood's power of depositing fibrine is often impaired by the want of sleep and the irritable state of the nervous system, which may be occasioned by too long continued and unremitting pressure.

Secondly, it is a very important desideratum to know the exact amount of pressure which will arrest the flow of blood

through the femoral artery as it crosses the pubes: this may be readily ascertained by placing leaden weights, of different sizes, over the artery, until the pressure which obstructs the flow of blood is ascertained. By trying this experiment on a number of patients in the hospital of different weight and habit, I find that seven pounds and a half may be assumed as the average; in the great majority of cases this was the exact amount required; and in the few cases which differed from this amount, owing to variations in the strength of the arterial pulse, or in the amount of sub-cutaneous fat, six and eight and a half pounds were the extremes of variation. Dr. Bellingham states that he found the amount of pressure to vary from four or five to eight or nine pounds; the contrivance which he made use of, however, was uncertain, as a good deal of



the weight was lost upon the frame, or "hopper," in which it was supported. The wood-cut[a] represents the contrivance which I made use of in performing these experiments. Finding that it could be so easily applied, and that it was so certain in its action,—in fact, so near an imitation to manual pressure, which undoubtedly would be the best if it could be applied in practice,—I tried it in the next case of aneurism which presented

[a] A, B, cradle of light wood; E, F, light slips of wood, having gimlet-holes every two inches; *g*, *f*, strong piece of iron wire bent to a ring in the centre,—the same is shown below in profile; *a*, *b*, *c*, *d*, *e*, are leaden weights of different size; *e*, the largest one, is conical, and has a stiff iron wire, *h*, about twelve inches long, projecting from it.

itself, and with such satisfactory results that I should not now think of using any other instrument. The first case in which I tried it was cured by its use alone in twenty-six and a half hours[a]. Lately I attended, with Mr. Wilmot, a gentleman, in Upper Gardiner-street, for popliteal aneurism: he was a very fat man, and exceedingly intolerant of restraint; and, though every variety of instrument was tried, this was the only one which he could be induced to bear for any length of time, and without it, I think the cure, which took place in nine days, of eight hours a day pressure, could not have been effected.

The cradle may be about twenty inches wide at the bottom, C, D, where it rests on the mattress; and eighteen inches at the top where the bed-clothes are supported; the length should be enough to extend from below the knee to above the hip, about thirty inches. The wire, *g*, *f*, can be pushed through any of the holes in the slips, E and F, so as to bring the ring to the right position over the artery. To apply the instrument, the patient should be placed fairly on his back, on a moderately soft mattress; the cradle should next be placed over his body, and the wire, *g*, *f*, adjusted so that when the weight, *e*, rests on the femoral artery in the groin, the wire, *e*, *h*, shall be perpendicular; if the weight is placed fairly on the artery, it will be lifted up at each pulsation, and the smaller weights can be added until the requisite amount of pressure is produced. It might, at first sight, appear that this contrivance would be liable, as other plans for using the weight are, to slip from its position when any movement is made by the patient. This, however, is not the case, as, while the weight rests on the patient, and moves with him to a certain degree, the distance of the other point of support is so great that the wire is not much deflected from the perpendicular, and consequently the pressure is maintained in a proper direction, while the danger which often occurs from too tightly screwing down the instruments commonly in use is avoided. Not the least recommendation of this appliance is that it may be made at the cost of a few shillings by any person of ordinary ingenuity, and is thus available in the country, where the expensive and, in my opinion, unnecessary complicated instruments cannot be always procured.

Thirdly, much will depend on the duration and amount of pressure. As far as my own experience goes, it should decidedly be of an intermittent character, not exceeding six or eight out of the twenty-four hours: in this way, the patient, not being deprived of his accustomed amount of sleep, or made feverish

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and irritable by constant confinement to one posture, the blood retains its natural properties, and, consequently, is better fitted to produce the fibrine necessary for the obliteration of the aneurism, while, for a similar reason, the tendency to ulceration, erysipelas, or gangrene, is not so great. This mode of procedure is different from that generally recommended, viz., relieving, as it were, one instrument by the application of another at a different point, so that, by keeping up unremitting pressure, the deposition of fibrine may not be interfered with or interrupted,—a plan which was, I think, founded on a physiological error, as it implies that if the treatment were allowed to intermit, the fibrine which had been deposited during a period of pressure might be removed during an interval of free circulation: fibrine once deposited must, I think, become more or less organized before it can be absorbed, and then, probably, only by the walls of the vessel with which it is in contact. It seems as probable, though it is a point difficult to verify, that fibrine may continue to be deposited from the blood on that already formed for a short time after pressure has been withdrawn, as it is well known that fibrine once deposited in contact with the blood has a tendency to add to itself fresh material from that fluid; further, some remarkable cases have been recorded, in which, pressure having been tried and given up, a spontaneous cure has taken place afterwards, which can only be accounted for by adopting this supposition.

It has been a common practice to apply pressure for hours at a time to one spot—the groin, for instance. In doing so, I think the well-known maxim has sometimes been forgotten, that long-continued pressure produces ulceration, while that of an intermittent character causes the opposite condition; to meet the requirements of this rule, I think it will be found, in most cases, that, in addition to the relief afforded by intermitting the treatment, there will be space enough at the groin to allow of the weight being moved up and down sufficiently to diversify the point to which it is applied; in this way, should the case be protracted, the integuments will be made harder and more tolerant of pressure. I have also found it a useful expedient to draw the integuments, if lax, as they often are, to one side or the other, as one might do to make a valvular incision. In this way a fresh surface of skin is presented to the pad, with great relief to the patient, and without disturbing the subjacent artery, the same portion of which remains under pressure. Should it be thought desirable to make pressure at any other situation than the groin, the weight cannot be very conveniently made use of, and a ring tourniquet or clamp must be employed. In those cases which have come under my own observation, pressure

elsewhere than at the groin had to be so severe that it could scarcely be tolerated by the patient, and even then it added little or nothing to the cure.

In treating aneurism by compression it is, I think, convenient to consider the disease as presenting two very different stages or conditions: one, that in which the tumour is more or less progressive, its walls elastic, and its contents fluid and easily evacuated; the other, that in which progress towards a cure, either spontaneous or the result of treatment, has taken place, the tumour increases little in size, or is, perhaps, stationary; its walls are lined with fibrine, and inelastic, and some collateral circulation has begun to be established through the superficial arteries of the limb.

In the summer of 1856 two cases were admitted, within a short period of each other, into Steevens' Hospital, under my care, the contrast of which was very evident, and which may serve to illustrate the point to which I now allude. The first, George Wilson, was admitted into the Primate's ward, May 7. 1856, having a femoral aneurism of six weeks' standing. The tumour, about eight inches in diameter, was a little above the middle of the left femoral artery; it pulsated visibly, and a loud *bruit* was heard when the stethoscope was applied; it could be quite emptied by direct pressure, and nearly so by compression upon the artery at the brim of the pelvis. Pressure was commenced on the 11th of May with a seven-pound weight, supported by the hands of the patient over a tourniquet pad in the groin, and continued, with a few hours' intermission, until the following evening, when, owing to some erythema and tenderness of the seat of pressure, it was discontinued. Finding that continuous pressure did not answer, I applied intermitting pressure, at the rate of six hours out of the twenty-four, from the 14th to the 25th of May, by which time the aneurism had become consolidated.

The second case, Patrick Mara, was admitted into Madam Steevens' ward, September 2, 1856: he had a popliteal aneurism of twelve months' standing. The aneurism presented the appearance of a large ovoid tumour in the left ham, which quite filled the popliteal space; on the outer side it was hard and firm, and void of pulsation and *bruit;* on the inner side it was softer, and had both pulsation and *bruit.* Pressure was commenced at 2 o'clock P. M. on September 5th, with a leaden weight, and afterwards with Carte's and other instruments, and continued with some intermission until the afternoon of the 6th, when a complete cure had been effected[a].

[a] A full report of these cases, from which this abstract is taken, was published in the Dublin Medical Press for November 19, 1856.

At the time that I treated these cases I was not aware of the full value of the intermittent form of pressure; were such cases to present themselves for treatment now, I should not think of interfering in any way with the patient's usual period of repose. In both of these the weight was at first used, but had to be discontinued when the patient became tired of keeping it in position with his hands, as I had not at that time contrived the appliance described in this paper; and, though I had the benefit of Dr. Bellingham's assistance, the leather case or "hopper" in which he attempted to apply the weight was not found to answer the purpose. The first of these cases was one which was active in its progress, and required a good deal of preliminary pressure before the collateral circulation was established, prefatory to the consolidation of the tumour; the second was one in which the first stage had passed, and a spontaneous attempt at cure taken place before the patient's admission, and, as a consequence, a speedy cure was the result. Many failures have, I think, taken place from not regulating the pressure according to which of these two conditions may be present.

To the first stage only moderate pressure, in fact such as was recommended by Mr. Todd as a preliminary to ligature, is applicable: to quote his words:—"The cases of popliteal aneurism are related chiefly with a view of recommending a more general adoption than is at present practised, of a preparatory course previously to operation. I can scarcely doubt but that in many cases of aneurism in which operations have failed, from mortification of the limbs succeeding, the patient might have been saved by a delay sufficient to allow some progress to be made in establishing the collateral circulation; and I feel confident that this desirable object may be promoted in most instances of recent disease, situated at a sufficient distance from the trunk, by compressing the principal artery of the limb for a few hours every day, for a period which must vary according to the circumstances of the case"[a].

In the second stage or condition of the aneurism, instead of the ligature, to which Mr. Todd considered the last-mentioned line of treatment prefatory, a weight of about eight and a half pounds should be used, so as entirely to stop any circulation through the main vessel; the blood which now reaches the tumour by collateral channels being sufficient for the deposition of fibrine, or the formation of coagulum; while the pressure, which can be accurately estimated if a weight is used, if not left on longer than an hour at a time, cannot cause gan-

[a] Dublin Hospital Reports, vol. iii.

grene or any other unfavourable complications. As the result of my own experience, it has generally occurred that, during one of these periods of complete arrest of the circulation, a perfect cure will have been effected. Indeed, I have not the slightest doubt but that many cases of unsuccessful pressure have been consigned to the ligature, which an hour's complete arrest of circulation, through the main artery, in the safe manner which I have described, would have effectually cured.

Many cases present themselves for the first time in what I have described as the second stage, in which the disease is stationary, and a spontaneous deposition of fibrine, with, perhaps, enlargement of collateral vessels, has taken place. Here the preliminary treatment may be very brief; strong intermittent pressure may be commenced almost at the outset, and a rapid cure may be anticipated: such was one of the cases already alluded to, and another which I published in the fifth volume of the Dublin Hospital Gazette, in which the cure was effected by twenty-six and a half hours' pressure. On the other hand, some cases present themselves which are increasing so rapidly, that pressure, even if continuously applied, can scarcely check their progress. These cases, which, fortunately, are rare, would not admit of the kind of treatment which I have recommended, and it is a difficult question to decide whether unremitting pressure, with its attendant dangers and inconveniences, should be tried in them, or whether resort should not be had at once to the ligature. I confess I lean to the opinion, that if moderate pressure, intermittingly applied, assisted by the usual precautions as to diet, &c., does not check the development, and diminish the pain of a rapidly growing aneurism, the last-named procedure should be at once adopted.

In a recent Number of the Medical Times and Gazette, a case was published which so strongly illustrates the necessity of paying attention to the points which I have here alluded to, that I take the liberty of giving a brief abstract of it. It occurred under the care of Mr. Ward, in the London Hospital, and was one of those cases which I have described as being in the first or active stage:—"There was a well-marked *bruit de soufflet*, and the swelling shrank considerably when pressure was made on the femoral artery." After a week's confinement to bed, and attention to the other necessary preliminary measures, "compression treatment was commenced. . . . A meat weight and a pad to the groin, and Biggs' aneurism compressor, were alternately had recourse to, instruments which had proved successful on two previous occasions. . . . This treatment was kept up for four days, never, however, at any time sufficient to stop the pulsation in the aneurism. . . . On the fourth day the skin over

the artery at the lower fourth of Scarpa's triangle, corresponding in extent to the area of the pad of the compressing instrument, looked livid and dark, and was of a low temperature. . . . The compression treatment was laid aside. . . . Ultimately, an eschar involving the skin and soft tissues down to the sheath of the artery separated"[a]. The first case which I mentioned as having occurred in my own practice, that of George Wilson, was very similar to this one: had it not been that he was a young and healthy man, and his heart's action strong, I think it probable that the erythema and tenderness, instead of terminating in resolution, might have, as in this instance, ended in sloughing. Had the treatment which I now advocated been carried out in Mr. Ward's case, I think a different result might have been anticipated; fortunately for the patient, he was in skilful hands; ligatures were placed on the artery on the fourteenth day after the separation of the slough, above and below the wound, and in a few weeks he left the hospital cured.

Many such cases as this have occurred in England and this country, and have thrown discredit upon the compression mode of treatment, some of them, unfortunately, not having terminated so favourably as this one did.

As a corollary to these observations, I should be disposed to adopt the following rules in treating a case of femoral or popliteal aneurism:—

1. The patient should be subjected to the usual diminution of diet, and sedative treatment; abstinence from drink being particularly enjoined, as recommended by Dr. Bellingham.

2. The patient having been put on a moderately soft mattress, and a pillow placed under the knee, a weight of about five and a half pounds should be applied every alternate hour, during the day, to the artery at the groin, and withdrawn at night. The lesser end of the leaden weight which I use is rounded off to the size of a hemisphere, of one inch in diameter; and the integuments are protected by one or more layers of chamois leather.

3. After the lapse of six or eight days, or sooner if the collateral circulation has been fairly established, the weight should be increased to eight and a half pounds, so as to imitate the ligature, and completely obstruct the main artery, care being taken that it is not left on more than an hour or an hour and a half at a time. In this way an immediate cure may sometimes be effected by the formation of a coagulum; or, if not, more slowly by the deposit of fibrine.

[a] For full particulars of this most interesting case, see Medical Times and Gazette for October 1, 1859.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

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2. *Thirteenth Report of the Commissioners in Lunacy to the Lord Chancellor.* Presented pursuant to Act of Parliament. Ordered by the House of Commons to be printed, August 12, 1859. Blue Book. Large 8vo, pp. 143.

3. *First Annual Report of the General Board of Commissioners in Lunacy for Scotland.* Presented to both Houses of Parliament by Command of Her Majesty, dated January 28, 1859. Blue Book. Large 8vo, pp. 238.

4. *Lunatic Poor (Ireland).—A Bill to Consolidate and Amend the Law relating to the Lunatic Poor in Ireland.* (Prepared and brought in by Lord Naas and Mr. Attorney-General for Ireland.) Ordered by the House of Commons to be printed, February 7, 1859. Folio, pp. 35.

5. *Report from the Select Committee on Lunatics.* Together with the Proceedings of the Committee, Minutes of Evidence, Appendix, and Index. Ordered by the House of Commons to be printed, April 11, 1859. Blue Book. Folio, pp. 388.

6. *The Journal of Psychological Medicine and Mental Pathology.* Edited by Forbes Winslow, M. D., D. C. L. Nos. 13, 14, 15, 16. New Series, for the Year 1859. London: John Churchill.

7. *The Asylum Quarterly Journal of Mental Science.* Published by Authority of the Association of Medical Officers of Asylums and Hospitals for the Insane. Edited by Charles Bucknill, M. D. Lond. Univ., Physician-Superintendent of the Devon County Asylum for the Insane, and President Elect of the Association. Quarterly Numbers 28, 29, 30, and 31, for the Year 1859. London: Longman and Co.

8. *On the State of Lunacy and the Legal Provision for the Insane; with Observations on the Construction and Organization of Asylums.* By John T. Arlidge, M. B., A. B. Lond., formerly Medical Superintendent of St. Luke's Hospital, and Physician to the Surrey Dispensary, &c. London: Churchill. 1859. 8vo, pp. 213.

9. *Life:—its Relations, Animal and Mental. An Inaugural Dissertation.* By J. Dickson Bruns, A.M., M.D. Charleston: Walker, Evans and Co. 1857. Pamphlet, pp, 58.

10. *On the Prevention and Treatment of Mental Disorders.* By G. Robinson, M. D., Physician to and Proprietor of Bensham Asylum, Gateshead. London: Longman and Co. 1859. 8vo, pp. 228.

11. *On Hallucinations.* By A. Brierre de Boismont, M. D. Translated from the French by Robert T. Hulme, F. L. S., M. R. C. S. Eng., and Lecturer on Comparative Anatomy at the Grosvenor-place School of Medicine. London: Henry Renshaw. 1859. 8vo, pp. 455.

12. *The American Journal of Insanity.* Edited by the Medical Officers of the New York State Lunatic Asylum. January, 1859. Utica, N. Y. State Lunatic Asylum.

13. *A Letter to the Right Honourable the Earl of Shaftesbury, &c., &c., on the Laws which regulate Private Lunatic Asylums, with a Comparative View of the Process "De Lunatico Inquirendo" in England, and the Law of "Interdiction" in France.* By Edward J. Seymour, M. D., F. R. S., late Senior Physician to St. George's Hospital. London: Longman and Co. 1859. 8vo, pp. 59.

14. *Tables for the Diagnosis of Diseases of the Brain.* By J. Russell Reynolds, M. D. Lond., Fellow of University College, Assistant Physician to the Westminster Hospital. London: Churchill. 1857. 4to.

15. *Report of the Londonderry District Asylum for the Lunatic Poor for Londonderry and Donegal, for the Year ending March* 31, 1859. By WILLIAM ROGAN, M. B., Resident Physician. Pamphlet, pp. 15.

16. *Fourth Annual Report of the Mullingar Asylum for the Insane Poor, to May* 31, 1859. By HENRY BERKELEY, M. D., Resident Physician. Pamphlet, pp. 32.

17. *Twenty-ninth Annual Report of the Belfast District Hospital for the Insane, to March* 31, 1859. By ROBERT STEWART, M. D., Physician-Superintendent. Pamphlet, pp. 35.

18. *Eighth Annual Report of the Wilts County Asylum, Devizes, for the Year* 1858. By JOHN THURNAM, M. D., Physician-Superintendent. Pamphlet, pp. 43.

19. *Fourth and Fifth Annual Reports of the County and City of Worcester Pauper Lunatic Asylum.* By JAMES SHERLOCK, M. D., Medical-Superintendent. Pamphlets, pp. 76 each.

20. *Statistical Report of Cases of Insanity treated in Abington Abbey, Northampton, from January* 1, 1854, *to December* 31, 1858. By THOMAS PRICHARD, M. D., Fellow of the Royal College of Physicians of Edinburgh, and formerly Medical Superintendent of the Glasgow Asylum for Lunatics. Pamphlet, pp. 26.

21. *Annual Report of the Royal Edinburgh Asylum for the Insane, for the Year* 1858. By DAVID SKAE, M. D., Resident Physician. Pamphlet, pp. 44.

22. *Medical Report of the Royal Lunatic Asylum of Aberdeen, for the Year ending December* 31, 1858. By ROBERT JAMIESON, M. D., Physician-Superintendent. Pamphlet, pp. 23.

23. *Thirty-second Annual Report of the Directors of James Murray's Royal Asylum for Lunatics, near Perth, June,* 1859. Pamphlet, pp. 58.

24. *Eighteenth Annual Report of the Crichton Royal Institution for Lunatics, Dumfries, November* 11, 1857. By W. A. F. BROWNE, M. D., Physician-Superintendent. Pamphlet, pp. 44.

25. *Report of the Pennsylvania Hospital for the Insane, for the Year* 1858. By THOMAS S. KIRKBRIDE, M. D., Physician-Superintendent. Pamphlet, pp. 62.

1. WE commence our Tenth Annual Review "On Insanity and Hospitals for the Insane," on the present occasion, with the lately issued Blue Book, entitled the "Ninth Report on the

District, Criminal, and Private Lunatic Asylums in Ireland," as addressed to His Excellency the Earl of Carlisle, Lord Lieutenant of Ireland, by the Government Inspectors, Dr. Nugent and Dr. Hatchell, and presented to both Houses of Parliament by command of Her Majesty. A public document, such as this, is full of the deepest moment, relating, as it does, to the interests of, unhappily, an increasingly large portion of the human family, the subjects of the direst affliction that can be imagined, and consequently demanding the continued and warmest sympathies of all. It is a matter which cannot but give the largest amount of satisfaction to the humanely disposed to have such self-evident proof as that afforded by an authentic official Report, as the one now under consideration, of the most constant and watchful care being exercised on behalf of the insane, rich and poor, in these countries; and greatly does it redound to the honour of the national character that, be our shortcomings and failings what they may in other respects, it cannot be laid to our charge that we are culpably unmindful of our insane, or holding back in endeavouring to accomplish the largest amount of good on their special account.

The Report of the Inspectors fully bears out this statement of ours. Let any impartial person examine its contents, and we feel assured he will not have any difficulty in arriving at the same conclusion. Into the minutest matter of detail it enters with the greatest care, giving the fullest information on every particular of the least importance that could be desired, whether professionally, statistically, legislatively, or fiscally.

The Inspectors show that there is still great necessity for increased accommodation being provided for the insane poor in this country, a necessity found equally to exist both in England and Scotland. That a sufficient number of well-appointed and well-found curative establishments should be provided, there cannot be a doubt; and we earnestly trust and hope that the great wants experienced in this respect will be grappled with and provided for with every convenient despatch. We are quite of the same mind with the Inspectors in thinking that the time has fully arrived when each county in Ireland should provide itself with an hospital for the insane. It is admitted by the best authorities, and earnestly pressed too, that institutions for the treatment of mental disease should not contain more than a certain number, as, beyond that certain number, the chances of the patients of all classes receiving that attention which they absolutely need from the responsible head of the establishment must necessarily be diminished, and

thus a permanent evil be inflicted on the community at large, by the probabilities of a patient recovering ability to resume the duties of the extern world being in anywise lessened. This is a view of the case of the greatest moment, and should be kept in mind by those economizing parties who would multiply the cases in individual asylums, instead of multiplying the asylums themselves, and thus be acting with true economy, to say nothing of true humanity; for we cannot conceive anything more melancholy, or more calculated to cause permanent depression with the sane as well as the insane occupants of an asylum, than its hundreds upon hundreds of wretchedly afflicted inmates, as is the case in the sister kingdom, which we are grieved to see is an increasingly persevered-in evil there by the responsible authorities, who would appear deaf to all entreaties to stay their hands in this destructive policy; and all this is done on the ground of economy! Alas, that this should be the case in any portion of this Christian land! Our voice, however feeble, has been again and again raised against this miserable and cruel system, and still shall we persevere in denouncing it until, happily, a better spirit shall rule those who at present have this power of evil in their hands, and who will listen to no reason on the subject.

With reference to the maintenance of public asylums in Ireland, the Inspectors show plainly that the present system presses very hardly on the farmer in possession, upon whom falls solely the support of those necessarily costly institutions, the owner in fee not being liable, as is the case in the poor-law rateage, in which latter the landlord and the tenant pay in equal proportions. The Inspectors, accordingly, suggest on this head—a suggestion which we consider well worthy of the best consideration—the levying of a rate-in-aid as a fair and more equitable plan of obtaining the necessary funds for the future for the due maintenance of the several district asylums in Ireland. On this head the Inspectors observe:—

"Regarding lunacy, however, not alone as worthy of local consideration, but comprehensively as one of general importance, a question may arise as to whether the sums necessary for the maintenance of asylums might not be levied through existing machinery on the established and legal principle of a general rate-in-aid, not to exceed 3*d.* in the pound first demand on the poor law levy, and payable to a central board for the due organization of lunatic establishments in this country.

"The annual poor-law valuation, which, for some years, with the advancing prosperity of the country, has also been proportionally on the increase, amounts at present to over twelve millions, with the

still further likelihood of greater improvement. Three pence in the pound would constitute a clear income of £150,000 a year, of which £30,000 would be ample to liquidate in sixteen years all debts to the Treasury, prospectively and retrospectively. At the present moment Irish asylums owe £280,000. £30,000 raised annually for sixteen years would be £480,000; thus we should have a surplus fund for building, repairs, and the purchase of land, of £200,000, leaving ultimately, at the rate of $2\frac{1}{2}d.$ in the pound, £125,000 for annual maintenance. Neither would this be a newly created expense, as above £12,000 a year is spent for the support of the insane in poor-houses, independent of a further sum for dangerous lunatics in gaol, say between both a minimum of £16,000 a year."

In immediate connexion with the support and the continued success of our public hospitals for the insane, we are more and more firmly persuaded that, as regards the superintendent physicians at least, their salaries and superannuations should be defrayed out of the national funds of the country. These officers, we consider, should be appointed on the sole responsibility of the executive Government, as at present; but, inasmuch as their salaries have to be paid by the rate-payers, great and, it must be admitted, reasonable exception has been taken to the Executive exercising a patronage which costs them nothing. On every account, therefore, we would desire to see this change provided for in any new legislation that may be proposed for the regulation of our Irish asylums. All the other appointments might properly be left in the hands of the local authorities.

The inadequate remuneration of the servants in the district asylums is thus most pointedly alluded to in the Report:—

"Furthermore, the rate of wages is not equal, being comparatively much lower in some institutions than it ought to be. In this respect we are glad to observe that Boards of Governors are sensible of the propriety of paying more liberally, to secure efficient services; a point which, taking into account the duties and responsibility of attendants on the insane, we have always urged on the consideration of the local authorities."

And, as regards the Physicians-Superintendent themselves, the Inspectors forcibly observe:—

"Considering the responsibilities, the nature of their duties, and the never-ending anxieties imposed on the superintendents of institutions crowded with their insane fellow-beings, almost their sole companions, we feel that the Act, in its most liberal construction, should be extended to these officers; and that while on the one hand

as educated professional men, debarred of practice, their scale of salaries should be increased; on the other, the right to full superannuations should be granted them after a reasonable length of service."

This is putting the case of those anxiously-placed officers in its proper light before the authorities, and for which the Inspectors deserve great credit—men whose duties are of the most arduous, trying, and responsible nature, besides never-ending, and which, to perform efficiently, require an amount of qualifications, moral, mental, and physical, not easily met with in the one individual; but to secure the largest amount of which, a liberal and handsome salary, with all other adjuncts, should be the rule, and not the exception, and, above all, the *right* to a superannuation pension at the term, we would say, of twenty years' faithful service, which would be equivalent to at least forty years in any other public department, as the wear and tear in the case of Medical Superintendents of asylums are well known to be of the severest description.

It is, however, very gratifying to find that the Inspectors afford the strongest proof of the large claims the Resident Physicians have for consideration and encouragement of the most liberal kind being meted out to them in their confessedly arduous vocation; the present Report showing the great ability and unremitting personal supervision exercised by the Resident Physicians, who are "primarily responsible for the general well-being" of their respective establishments, as properly stated by the Inspectors.

The annexed extract, in reference to the results of treatment for the last two years, the period embraced in the Report, bears us out in our estimate of the successful labours of the Resident-Physician:—

"On contrasting statistical returns from other countries with those of our own, whether recoveries be calculated by the percentage on admissions only, or on the daily average number under treatment, or on the total number in hospital during the year, as indicative of the general system of treatment adopted in Irish asylums, we can safely refer to results, the successful character of which is calculated to place these institutions in a foremost position.

"On admissions, the absolute cures in Irish asylums during the last two years reach 48·71 per cent., as against 36·99 in Scotland, 38·49 in England. Independent of the recoveries in our asylums, there were also discharged improved 13·26 per cent. of the admissions, representing under both heads 62 per cent. Of the daily

average, 16 per cent. recovered, and 4·20 improved; and, in like manner on the total under treatment, 12·15 and 3·30 respectively.

"In an official report presented to the Prefect of the Seine, 1856, a comparative tabular statement is given of the cures in French and English asylums, the recoveries in the former being represented on the *average* under treatment, as 13·27—in the latter at 9·90 per cent. Had the results obtained in Irish institutions been embraced by the writer with those of the sister country, they would have modified his calculations both as to recoveries and deaths, the average cures here being as appears nearly 3 per cent., or in the abstract, relatively speaking, almost a fifth over those in France.

"According to the Tables of mortality in England—none exist in this kingdom—it would seem that the deaths in the general population amount to about 9 annually in every 400. Within the last two years 7·42 per cent., being, however, one less than in the preceding similar period, died in district asylums. This large mortality among lunatics should not be a matter of surprise, if we reflect that so frequently combined with mental disease—itself tending to curtail existence, more especially in the acute or violent stages, are many other serious maladies, epilepsy, affections of the head, but, above all, pulmonary consumption; the latter constituting the immediate cause of death in more than one-fourth of the entire number of cases, while in general infirmaries, according to the Census Report, it does not exceed 10 per cent. Again, on the score of a smaller mortality, Irish asylums hold a decided advantage, being 7·42 as regards 8·37 in the Scotch, and 10·30 per cent. in English asylums."

We entirely accord with the spirit and common sense of the Inspectors' views, as follows; in respect of the "education of patients:"—

"Much has been said and written about the encouragement of literary pursuits in asylums: printing presses and the issue of periodicals are not unknown in some. We cannot speak very buoyantly of success,—the patients in Irish institutions, as a body, taking but little interest in books. Those advanced in years are almost all uneducated; a fair proportion of the younger are more or less instructed, but not sufficiently so as to derive amusement from general reading. Prints, pictures, and such like ornaments in the corridors and day-rooms, thus breaking the monotony of bare and whitewashed walls, are more to the taste of the inmates; they are cheaply obtained, as a novelty are beneficial to the insane, and from their humanizing influence agreeable to them, as well as to the casual visitor."

The tables contained in this Report are, as usual, most elaborately prepared and very numerous, affording thus succinctly an amount of information almost incredible, and all, too, of a most interesting kind in every point of view. It would be im-

possible for us, in our very limited space, to attempt giving even a list of them, to say nothing of a summary of their valuable contents. We can only afford room to state that from a glance at them we collect the following facts, viz.:—The daily average number of patients in the existing sixteen District Asylums in Ireland, for the year ended 31st March, 1859, was 4060½, the total outlay in the maintenance of which was £81,080 16*s.* 2½*d.*, being an average annual cost of each patient per annum of £19 19*s.* 4½*d.*; the highest individual cost in any of the Asylums, viz., at the Richmond, with 652 patients, being £25 19*s.* 7*d.*, and the lowest, at Cork, with 471 patients, viz., £13 7*s.* 0¾*d.*, which appears a remarkable difference. In salaries of officers, the highest is that of the Richmond, viz., £1488 10*s.* 1*d.*; the lowest, at Armagh (140 patients), viz., £415. The total expenditure in tobacco and snuff in all the Asylums for 1859 was £475 18*s.* Three of the asylums, viz., Belfast, Carlow, and Kilkenny, are not chargeable with the use of the "noisome weed" in any form, and we only regret that so few are in this enviable category; but let us hope better things of the larger number for the future. Teetotalism nearly would appear to be the practice in the Irish asylums, inasmuch as we find that all that was expended during the year 1859, in "wine, beer, and whiskey," was only £308 9*s.* 6½*d.*, the smallest expenditure under this head being at Mullingar (222 patients), viz., £2 3*s.* 4*d.*, and the largest, the Richmond, viz., £102 4*s.* At two, viz., Belfast and Sligo, there was no expenditure incurred in this respect for that year. In "medicine and medical diet," the difference of expenditure was most remarkable, the same varying from £5 1*s.* 1*d.*, at Omagh, with 244 patients, to £855 9*s.*, at the Richmond (652 patients), a disproportion which we are quite at a loss to account for. As regards the numbers sleeping in dormitories, Armagh has the largest associated together, viz., 25; Clonmel, 22; Carlow, 21; Derry, 18; Maryborough, 17; Limerick, 16; Waterford, 16; and the others varying between 14 and 2. We have often before expressed our dissent to more than six sleeping together in the same room, and here we regret to find we are at issue with the Inspectors, who advocate the injurious system of large dormitories, so large as to hold one hundred each, which we consider highly objectionable on moral, medical, and hygienic grounds, being fully satisfied that even a tenth of that number is too much, and very obnoxious to the patients themselves, who feel it a great hardship to be thus herded together *en masse* during the night, and subjected to the innumerable discomforts of a large, if not crowded, dormitory, whose atmosphere, long be-

fore morning approaches, must inevitably be surcharged with all that is offensive to the olfactories, and hurtful to the respiratory organs, let the ventilation be perfect as it may.

The Inspectors, amongst their other tables of the deepest interest, give us one in connexion with the total number of lunatic, idiotic, and epileptic cases in the several workhouses in Ireland on the 2nd day of April, 1859, which amounted to 2047, viz., lunatics, 500 (139 males, 361 females); idiots, 825 (372 males, 453 females); epileptics, 721 (211 males, 510 females). Of the 4090 patients remaining under treatment in the district hospitals for the insane on the 31st March, 1859, the number of the probably curable was only 1275 (653 males, 622 females), and the chronic or supposed incurable, 2815 (1434 males, 1381 females). As to social condition, the married were 943 (446 males, 497 females); unmarried, 2704 (1496 males, 1208 females); widowed, 320 (70 males, 250 females); unknown, 123 (75 males, 48 females); total, 4090 (2087 males, 2003 females). As to education, 1158 (487 males, 671 females) could neither read nor write. The daily average number employed was 2307 (1065 males, 1242 females).

The Inspectors, of course, continue strongly to advocate the compulsory appointment of paid chaplains in all the asylums, and we continue to differ from them *toto cœlo*, in respect of this now long-vexed question, one which we had hoped had been long since abandoned by them. They give a quotation, in favour of their view, from a local Report, which we consider quite out of place, and giving no force to the point at issue; but what has greatly surprised us, in connexion with this subject, is, that a paragraph, so extremely arbitrary in spirit and letter as the following, should have appeared in this otherwise enlightened and progressive Report:—

"We trust, as by a decision in the Court of Queen's Bench in Ireland, it was ruled that the Lord Lieutenant in Council had not authority to appoint regular chaplains to hospitals for the insane, that in any future Act full powers may be conferred on His Excellency, on this and every other point where the well-being of institutions for the insane is in question; and if doubts should arise on the construction of a clause, it should rest with the Lord Lieutenant in Council, on the opinion of the law officers of the Crown, to decide the meaning."

It must strike all with astonishment, that no provision of any kind has been made in this country for the medical and moral treatment and due comfort of those in the position of privates in the army and of the constabulary force, with others

in the immediate service of the Crown, when the subjects of insanity. This is very discreditable to our rulers, and should no longer be permitted to remain a blot on the common humanity of the nation. The Inspectors thus forcibly, aud much to their credit, call the attention of the Executive to so serious an evil:—

"We would now respectfully direct your Excellency's attention to a subject of some importance in connexion with the lunatic requirements of this country. We refer to an asylum accommodation for persons who, while employed in the military or civil services of the Crown, become insane, and who at present may be regarded in this respect as altogether unprovided for. Soldiers, marines, and the constabulary force in Ireland, are so habitually changing place that they cannot be considered as belonging to any particular county or city, and thus possessing local claims on its charities; whilst their continued absence from home deprives them of social rights which they otherwise would enjoy. We find that unfortunate lunatics from the above-named classes are exposed to much privations, and that considerable obstacles have to be surmounted in procuring them a shelter in district asylums, not, however, from any want of sympathy on the part of boards of governors, but from the difficulty of obtaining admission into crowded institutions, while residents and ratepayers themselves are awaiting vacancies.

"So far as lies in our power, we facilitate into asylums on every occasion the reception of members belonging to the service; still we cannot but feel that they ought to be placed beyond the necessity of eleemosynary applications, and that some arrangement is requisite to secure to men whose lives are devoted to their country in all the vicissitudes of climate, a certain place of refuge when visited by one of the saddest afflictions of Providence upon mankind."

And again, to another most important but sadly neglected and miserably circumstanced portion of the community, when stricken down with mental disease, the Inspectors specially and feelingly allude in their present as well as their last Report. It is that class in which are embraced clerks, governesses, and others of respectable position and education, who have been accustomed to enjoy all the comforts of private life in their respective spheres whilst in mental health, but, deprived of this, their only resource is to be placed amongst their inferiors in the public asylums, and thus have their condition most grievously aggravated. We ourselves, in these Annual Reviews, have earnestly advocated that an intermediate asylum should be established for such, and with the Inspectors we ardently hope that this great social evil will be boldly met by those in authority, and its removal speedily accomplished.

The Central Asylum at Dundrum, under the judicious and humane superintendence of Dr. Corbet, continues to fulfil its important mission to the satisfaction of the Inspectors; several details in connexion with which, and of a very interesting nature, are given in the Report, but for which we have not space, and must, on the present occasion, content ourselves by giving the following brief summary of its state on the 31st of March, 1859:—Under treatment during the year, 141 (males, 96; females, 45). Discharged during the year, 7 (5 males, 2 females). Died, 4 (males, 2; females, 2). Remaining, 130 (males, 89; females, 41). Daily average number of patients, 130. Average cost of each patient per annum, £26 18*s.* 6¼*d.* Total outlay for the year, £3500 7*s.* 9½*d.*

The Private Asylums in Ireland, on the 31st December last, amounted to 16, including the licensed one at Lucan (which, in addition to its Government inmates, is licensed for private patients also). The number remaining under treatment during the year in the sixteen amounted to 463 (254 males, 209 females). The largest number was contained in St. Patrick's Hospital, viz., 148 (76 males, 72 females). The next at Hartfield House, viz., 41 (23 males, 18 females). The smallest number, at Lucan (exclusive of its Government patients, the number of whom is not given), 4 (2 males, 2 females). The total number of deaths was 32 (21 males, 11 females), the mortality in them being nearly in the same very small per-centage as in the district asylums.

Having now completed our notice of this Report of the Inspectors, we may, in conclusion, observe, that it does them and their very efficient staff the greatest credit for its comprehensiveness, excellent tabular arrangements, and general completeness; the contents, taken as a whole, being exceedingly able, together with being a Government document, second to none for importance as an official standard of invaluable reference on all that relates to insanity in this country.

2. The Thirteenth Report of the Commissioners in Lunacy in England contains the usual amount of information connected with insanity, and is compiled with much care. The entire number of all classes of the insane in England and Wales, under treatment on the 1st of January, 1859, amounted to 22,911 (10,827 males, 12,084 females).

This gross number contained 18,022 (8169 males, 9853 females) of the "pauper" class, and 4,889 (2,658 males, 2,231 females) of the "private" class of patients. The "pauper" portion was thus located, viz.:—In "County and Borough

Asylums," 15,615 (7,127 males, 8,488 females); in "Hospitals," 218 (109 males, 109 females); in "Metropolitan Licensed Houses," 1,264 (464 males, 800 females); in "Provincial Licensed Houses," 925 (469 males, 456 females). The number deemed curable of the above gross amount of 22,911 was but 2,773 (1,382 males, 1,391 females), thus leaving a residuum of 20,138 of the incurable or chronic class. The cases deemed curable in the County and Borough Asylums were 1,673, out of 15,842 (879 males, 794 females); in Hospitals, 339, out of 1,858; in Metropolitan Licensed Houses, 331, out of 2,551; and in Provincial Licensed Houses, 413, out of 2,523. The total number of recovered cases during the year 1858, was 3,079 (1,399 males, 1,680 females). The deaths were 2,306 (1,274 males, 1,032 females); of these, 12 were from suicide (5 males, 7 females), 4 of which occurred in Public Asylums, 3 in Hospitals (lunatic), 1 in Metropolitan Licensed Houses, and 4 in Provincial do.; and from accidents or violence, 17 (10 males, 7 females), viz., 8 in Public Asylums, 1 in Hospitals, 4 in Metropolitan Licensed Houses, and 4 in Provincial do.

The Report states, that since last year new asylums had been opened at Durham (312 patients), Cambridge (250), and Northumberland (number not given), but that still the accommodation for the "pauper" insane in public asylums was entirely inadequate to meet the demand for admission—a want which compelled the unfortunate insane "pauper" to be kept in the workhouse, or farmed out with strangers, or, if sent to a "licensed house," it was only to be placed at a distance from his relatives, and his maintenance thus made a heavy charge upon his parish—"a system," the Commissioners observe, "superseding the public asylum, and rendering necessary the existence of licensed houses for paupers."

In making additions to overgrown asylums, the Commissioners suggest the erection of detached buildings of a simple and inexpensive character instead of extending the original structure, which have been found preferable to long galleries, and have given great satisfaction to the patients themselves from their more home-like apartments and cheerful and comfortable appearance.

Special reference is made to the enlargements going on in the already huge and unwieldy establishments at Hanwell (1005 patients) and Colney Hatch (1285 patients), for the pauper insane of the county of Middlesex. In vain have the Commissioners raised their warning voice against those monster institutions being further increased in their already too enor-

mous proportions; and, as regards the additions to Colney Hatch, it appears, the Report states, that—

"They have a more detrimental effect upon the older portions of the building than had even been anticipated when the plans were originally submitted. The lofty new wing for female patients at the western extremity of the Asylum overshadows and renders gloomy the yards on either side of it; and, by some oversight, the roof of the new block on the south has been so constructed as entirely to obstruct all view of the country in that direction: whilst the new spur on the east still further encloses the airing courts, which were before open and cheerful, and indeed the best belonging to the Asylum."

Thus, then, have permanent causes of positive injury to the unfortunate inmates of this "mammoth" receptacle of insanity been perpetuated by its Board of Visiting Justices, which cannot be reprobated too strongly. But, highly reprehensible as these "detrimental" and blundering additions have been, much more so is their unreasonable and oppressive conduct in having only two medical officers (with the assistance of two dispensers) to attend to the entire medical and moral control and care of 1285 patients. Owing to a charge so overwhelming as this, the Commissioners truly and pointedly observe, that "it is manifest anything like individual treatment must be limited to a very small proportion of the cases." And again—"We fear that with the mass of patients the Superintendents must necessarily depend mainly upon the good conduct and trustworthiness of the attendants. Moreover, the chance of cure must be greatly reduced; such chance being still further diminished by the fact, that during the last six months there has been no medical assistant (dispenser?) on the male side."

Is it not most unjust and cruel, that two professional men are to be so overworked, and expected to do an impossible amount of duty, even had each herculean strength of body and vigour of mind? The mental strain and anxiety which must be constantly at work in the seriously responsible charge of nearly 1300 insane patients, day and night, under one roof, by but two medical men, must be intense to a degree, and this, too, at a most miserable rate of pecuniary remuneration? Our only surprise is that educated gentlemen can be gotten to undertake any such monstrous task, as sure we are that the labouring man is in a more enviable position than the oppressed Medical Superintendents of Colney Hatch Asylum. However, having secured the services of competent parties, the Visitors should at least act with a little more conscience towards them, both as to payment and a proper staff of assistants.

On every account this should be done, especially in order to render common justice to the poor patients themselves, and give them a chance of having their disease mitigated, if not cured.

In our last Annual Review we reverted to the points now under consideration, in the full hope that before another year elapsed a changed state of things would have taken place; but, unhappily, no amelioration, nor any appearance of such, has resulted, which we cannot but consider as extremely discreditable to the parties who have it in their power to apply the proper remedy. The Commissioners, however, have not failed to expose again and again these shortcomings in the Middlesex mode of procedure towards both its Medical Superintendents and afflicted insane population; they have also called attention to a remarkable feature in the Hanwell Asylum, namely, that of the Visitors not allowing the medical officers to peruse the reports made by the Commissioners,—"written, in fact, for their (the medical officers') particular consideration," —which is about as arbitrary and stupid an exercise of power as could well be imagined.

The Reports of the Commissioners on the condition of the County and Borough Asylums, with a few exceptions, are generally satisfactory, and much credit is given to the several Medical Superintendents for the efficient state in which their respective institutions were found on inspection during the past year.

The York West Riding, Haverfordwest Asylum, and the Hull Borough Asylum, have been more or less severely commented upon for their shortcomings in several particulars, as enumerated in special reports on each, more especially the two former. The Licensed Houses in the metropolitan district are reported to have been "progressively improving in their condition and management." In the "provincial" class, Acomb House, one of this description, of unenviable notoriety, is specially and largely referred to in regard to the misconduct of Mr. Metcalfe, the former resident medical proprietor, who not only was deprived of his license as no longer fitted to be intrusted with the care of the insane, but also was criminally indicted at the assizes for his misdeeds, and a true bill found against him, which, however, to the present time remains over his head, he having left the country before he could be held to bail.

As respects a Military Asylum for soldiers when the subjects of insanity, the Commissioners have again to report that the military authorities were altogether indifferent to their

urgent and frequent appeals on this head,—the poor, demented soldier, who had lost his reason in the service of his country, being cruelly "farmed out" when thus mentally prostrated, and "made a source of profit to the proprietor of a private asylum." Neglect of this kind on the part of the responsible authorities is nothing short of a great and unpardonable crime, as well as national disgrace, and should not be winked at any longer, the honour of the country being called into question by its continued existence, and a dereliction of duty thus charged upon it. Is there not a single independent member of either House of Parliament to be found to bring this subject prominently before the Legislature?

The Asylum for Criminal Lunatics at Bagshot Heath, to accommodate 500, it is stated, is making considerable progress, and was anticipated to be in readiness in the course of the ensuing year.

We regret being unable further to extend our analysis of this excellent and practical Report of the English Commissioners; but we have sufficiently drawn upon its pages to show the value of its contents generally, and that, as in Ireland, so in England the interests of the insane continue to be closely and narrowly watched by all concerned, and "progress" to be the order of the day on behalf of those who are thus so unhappily afflicted.

3. The first Annual Report of the General Board of Commissioners in Lunacy for Scotland, bearing date 28th January, 1859, is addressed to Her Majesty's Principal Secretary of State for the Home Department, and has appended to it the following signatures, viz., "Melgund, Chairman, G. Young, George Moir, James Coxe, W. A. F. Browne." The last-named Commissioner, Dr. Browne, was long and most favourably known in his specialty as the able and very painstaking Physician-Superintendent for eighteen years of the Crichton Institution at Dumfries,—an establishment for the insane which obtained great and deserved celebrity from his lengthened and creditable connexion with it. It was very fortunate for this newly founded Board of Commissioners in Lunacy for Scotland to have obtained the services of so distinguished a member as Dr. Browne, who, from his previous intimate practical acquaintance with insanity in all its phases, gave it both character and weight at once with the public and the profession, and secured for its proceedings an amount of confidence and a prestige from its very first starting into existence, that would have required many years of probation had it been differently constituted.

Dr. Browne's appointment, then, on this Board was a happy move on the part of the authorities who had this important patronage in their hands, and a most just recognition of his strong claims for promotion to an office of so much trust and dignity, which his antecedents so eminently entitled him to have placed at his disposal.

This first Report of the Commissioners bears the impress of a thoroughly practical hand, having been evidently prepared with the greatest care, and arranged in a manner, from beginning to end, clear, comprehensive, and complete. The space which we have at command is so limited that we shall be unable on the present occasion to do little more than indicate some of the contents of so elaborate a Blue Book; and in the first place we may observe that in respect of the state of insanity in Scotland, as to number, we are afforded the following succinct tabular statement:—

"The total number of the insane in Scotland on January 1, 1858, with the exclusion of single private patients, whose number could not be accurately ascertained, was as follows:—

	Male.	Female.	Total.	Private.	Pauper.	Total.
In public asylums, ...	1226	1154	2380	786	1594	2380
In private asylums, ...	330	415	745	219	526	745
In poorhouses, ...	352	487	839	6	833	839
In private houses, ...	810	974	1784	. .	1784	1784
Total, . . .	2718	3030	5748	1011	4737	5748

The proportion of pauper lunatics in Scotland to paupers is estimated at 5·979 per cent. The Report informs us that none of the private insane, placed as single patients, are included in the foregoing computation; and, though using every available means to obtain approximative returns of the private insane, the Commissioners found it impossible to do so in time to embrace them in the present Report.

We think there is much truth in what the Commissioners state in reference to that most important point at present mooted, namely, as to insanity being so largely on the increase:—

"It is probable that the increase of insanity is, in a great degree, only apparent, arising from more attention being directed to the subject, and the consequent discovery of a greater number of persons affected with the malady. However, be this as it may, it is an ascertained fact, that the erection of an asylum always increases the known number of lunatics, by bringing into public notice cases which were formerly hidden from view in private houses."

And again:—

"Now, in relation to this malady, two important facts have been already established:—First, that one chief cause of the affection is hereditary predisposition; and, secondly, that the success of curative treatment depends, in a very great degree, upon its being undertaken at an early stage of the disease. In the course of our investigations we have obtained abundant proof that fatuous female paupers frequently become the mothers of illegitimate children, who, in their turn, grow up imbeciles, or become lunatics; and, although there is rationally more difficulty in tracing the source of idiocy or insanity to a paternal origin, there can be little doubt that male fatuous paupers contribute to this evil. In illustration of these remarks, we shall here give the result of our investigations in one county into this painful aspect of insanity. The number of single patients visited or reported on amounted to 349. Of these, 33 were reported to the Visiting Commissioners as illegitimate; 22 being registered paupers, and the remaining 11 indigent private cases. Of the 349, 113 were females about seventeen years of age; of these, 22 were in circumstances affording adequate protection to their chastity; of the remaining 91, 15 were known to have given birth to illegitimate children, and 5 to have borne more than one child; of the 15 mothers, 3 are known to have been illegitimate, and 12 are at present paupers; of their children, 6 are known to be idiots; there are besides in the county 3 other idiots who are known to be the offspring of insane or imbecile mothers, who are dead or have disappeared. These facts are most deplorable: nevertheless, it would be esteemed a harsh measure to send all such cases to asylums, and yet society has a right to demand that all persons who are supported on charitable funds should be placed in such circumstances, and under such control, as will guard against the propagation of the social evil."

The above is indeed a sad picture of a great social evil, and this only with reference to a limit so contracted; what then must be the enormous amount of the propagation of idiocy and lunacy in the country at large, when facts such as the above can be adduced of the demoralized state of one county alone?

The Commissioners speak unfavourably of the present condition of pauper licensed houses in Scotland, which they found generally over-crowded (a gradually diminishing evil, however), and the ventilation, especially during the night, imperfect. The system under which these houses exist, they state, "is fundamentally wrong, and there is, and must continue to be, a great and pervading want of cheerfulness and amenity."

The public asylums in Scotland are seven in number, viz.:—the Royal or Chartered Asylums of Aberdeen, Dumfries, Dundee, Edinburgh, Glasgow, Montrose, and Perth, and the Pauper

Asylum at Elgin, all of which were quite full, if not overcrowded, and unable, accordingly, to receive a large number of applicants for admission. The Commissioners animadvert upon the low scale of remuneration given to the medical assistants, who have been appointed in nearly all the public asylums to aid the superintendents in the discharge of the arduous duties of their office. In the Edinburgh Asylum, with 640 patients and a revenue in a very satisfactory condition, there are three medical assistants receiving respectively £60, £40, and £20 per annum! Why, a male domestic servant in a respectable family would be more liberally requited for his services. Such economy as this is wretched and miserable in the extreme. And at the Dumfries Asylum, "where there is an excess of revenue over expenditure of £2000, the two assistant medical officers receive respectively salaries of only £60 and £30."

And also the Commissioners pointedly advert to the fact of no steps having been yet taken to secure to the medical superintendents of the Chartered Asylums retiring allowances after a certain period of service. "The duties of these officers," they forcibly and truly state, "are extremely arduous; but, however well fulfilled, they do not lead to any advancement in position. We are, therefore, of opinion, that it would be not only just, but politic, to hold out to them the prospect of a provision for their declining years."

We must now close our notice of this Report, which, as we have already stated, is a remarkably ably drawn-up one, and replete with matter that will amply repay a careful perusal.

4. We shall dismiss, in a very few words, the document in our heading entitled "A Bill to consolidate and amend the Law relating to the Lunatic Poor in Ireland." That Bill, our readers are aware, was ultimately withdrawn by Lord Naas (one of its introducers), the late Chief Secretary of Ireland, so great was the opposition which it met in the House of Commons, and so unpopular was it, as a whole, with the public generally. Our reason for now making any reference to this defunct Bill—one of the many "slaughtered innocents" at the close of the last Parliament—is, that it contained provisions most insulting, and of a most derogatory character to the medical superintendents of the District Hospitals for the Insane in Ireland. It was intended to be, to all intents and purposes, a penal statute—one of pains and penalties—a bad reward to men who had been labouring in a field of all others the most arduous and responsible, and with an effect so successful that the present and past

condition of the public asylums in this country can be appealed to confidently for an answer. We say deliberately that it was a most insulting and a most uncalled-for measure; that it was replete with such anomalies in the way of intended legislation, and so complicated in its entire machinery, that, had any such Bill passed into an Act, the result would have been most destructive to the well-being of the asylums in Ireland and the interests of the insane poor themselves. That much to be deprecated Bill contained no fewer than seven or eight penal clauses (with penalties varying from two pounds to twenty pounds, and to be levied in the most summary manner at petty sessions), all more or less affecting the superintendents: for the escape of a patient, for instance, a maximum penalty of £20 was to be incurred! Our public asylums are second to none for good management in this or any other country, and for half a century they have been conducted without the necessity of inflicting penalties on their officers. It contained a clause also for the purpose of tying up the hands of the resident physicians from giving any advice outside in a case of insanity, which was arbitrary as it was uncalled-for and preposterous. It was also most insulting to the Inspectors themselves: one of its clauses provided for the appointment by the Lord Lieutenant of a "Special Inspector" in cases in which the Government might require special "information," not being able, of course, to place reliance on the regular Inspectors for the same. Altogether, it was a bill *sui generis*, and its ignominious death was rejoiced at by all. But, in the meantime, let us earnestly counsel continued vigilance on this subject, and remind all concerned, that to be "fore-warned is to be fore-armed."

5. The Report from the Select Committee on Lunatics is a most voluminous Blue Book, extending to 388 large folio pages, and to 3424 questions. Its appendices are numerous in proportion, namely, nine; all copious in matter. And, lastly, it has an extended index of the general contents of the Report; which, taken as a whole, is a very valuable Parliamentary document: one that is replete with an amount of miscellaneous information from the best and most authentic sources, which to the specialist in insanity cannot but be most important, and full of the deepest interest. We consider that it redounds highly to our national character and honour to see here a production from the continued sitting of a Parliamentary Committee, *de die in diem*, which evidences the strongest sympathy with the insane, and that the Legislature of this great country is putting every means into requisition to arrive at sound con-

clusions in regard to the best and most judicious treatment and disposal of the insane of all classes in these kingdoms,—in England, at least; for, as respects Ireland, it is greatly to be regretted that when the Bill of the late Government was introduced into the House of Commons, and that its grievous deficiencies and unpopular character were made so plainly manifest, the same privilege was not afforded to it as the sister kingdom, of granting a select Committee to receive evidence from the most competent and experienced sources as to the measure that would be desirable to bring forward for the amendment of the laws relating to lunacy in Ireland. Nothing short of this will satisfy the country, before any new Bill be again brought forward; and, seeing that the Committee for England has educed such valuable information as a groundwork for judicious legislation in that country, surely the same measure of common justice will not be withheld from Ireland, but granted as a matter of fair play and of right. It would, of course, be altogether impossible for us, from the limits at our disposal, to give more than a very few brief extracts from the evidence contained in this very voluminous, and at the same time important Report. We shall confine them to Lord Shaftesbury, the Chairman for so many years of the Commissioners in Lunacy in England,—a nobleman who has already obtained a name and place for the purest and most practical philanthropy which will not easily be forgotten, especially in regard to the best interests of the insane. His Lordship, on being questioned on the vexed question of "Visiting Physicians" to the public asylums, thus replied:—

"I should say, that in nine cases out of every ten a visiting physician is very objectionable; and I do not think it would be at all agreeable to the superintendent, for it would divide the responsibility. A visiting physician could only come in occasionally; and if he does come in, it is to interfere with the system. I do not think that a visiting physician would in the least relieve the labours of the medical superintendent; but that it would tend very much to impede his course of treatment, and certainly not a little to lighten his responsibility. But, depend upon this, if you increase the salaries of these gentlemen, you must take care to affix to them the most serious responsibility, and that you do not allow any person to come in who can in the least divide that with him."

Again, as to the party in an asylum in whom authority should be vested, and the amount thereof, he answers:—

"Considering the most serious and solemn responsibility connected with the governing power in an asylum, the medical super-

intendent ought to be the lord paramount, and be able to order what he pleases for the patients, with regard to diet, clothing, and general care, and in the adaptation of their rooms. He should have the nomination of all the attendants, with power to appoint them and dismiss them, and there *ought to be no appeal from him.*"

Then, with regard to the proper number of patients for the good management of an hospital for the insane, he informs the Committee of his own and his brother Commissioners' views on that all-important point, and, just as we have frequently stated ourselves in these Reviews, as follows :—

"We think that a medical man can manage, as we said in 1844, 250, and it might go so far as 300 ; but beyond 300 I am perfectly convinced that it is impossible for any medical man to pay adequate attention to every case ; for, unless in the management of lunatics, you have what the Germans call the individualizing system, viz., that the medical man should know every patient, and constantly direct his attention to him, you cannot effect any great or permanent cure."

We have only room for one more extract from the copious and exceedingly valuable evidence of Lord Shaftesbury, which again we have the satisfaction of seeing quite accords with what we always advocated. It is with reference to the salaries and superannuations of the medical superintendents and the attendants :—

"I do not know whether it is a matter that could be introduced into the Bill, but I think that the attention of the public should be very much drawn to the state of the medical superintendents in these asylums. It is perfectly clear that to the greater proportion of the medical superintendents in these asylums very much larger salaries should be given ; and unless you do that, you cannot possibly secure the very best service. Although there are some men who are really discharging their duty in the most admirable manner, yet I think that the labourer is not receiving that of which he is worthy, especially when you come to such cases as Hanwell, where Dr. Begley, after twenty years' service, receives no more than £200, with his house, and an allowance of rations. The great object must be to raise the *status* and character of the superintendents to the highest possible point. . . . . .

"One of the great defects of the present system is, that the salaries of the medical officers are much too low for the service they perform. I think that the country ought to secure the very best talent and responsibility that can be found, and they ought to raise their salaries higher. I believe in some of the asylums the salaries are higher ; but I hardly know one where the salary is adequate to the work done. . . . . .

"I cannot think that any superintendent ought to receive much less than from £500 to £600 a year, besides a house and allowances. . . . . .

"I wish to express my opinion, that the period for the superannuation of the attendants and the medical officers should be fixed; that it should not be left optional to the visitors; at present it is not to be allowed under 20 years. If it is not a fixed period, it is optional with the visitors whether they will or not grant a superannuation at that time; and I think it is but just that persons engaged, as the superintendents are, in these most onerous and serious duties should have before them a certainty of the time at which they can retire. And there is another reason for it: it has been found to operate injuriously. It operates very beneficially for the useless and the idle; for a man of that character will feel that when his period of 20 years is up, the magistrates will say, 'We may as well get rid of this idle man, and get a better;' but if there happens to be a really valuable man, who is to them almost indispensable, they will say, 'Well, but he is too good to lose; we will keep him on for a year or two longer; we cannot part with him.' A medical man of great eminence said to me the other day, 'I have known it to happen in the case of a very valuable servant; when his period of superannuation has come round, he would be put off for a year or two years.'"

"Do you propose that every officer or servant of an asylum should after 20 years' service be entitled to claim his superannuation if he wishes to do so?" "Yes, if his character were good."

"Would you retain the limitation of the right to persons of 50 years of age?" "No; I think that would be very hard indeed; and reference must be had to the peculiar nature of the duties they have to perform. It is not like the ordinary work in a banking-house, or in a Government office; nor even is it like the toil they have to undergo in military or naval service; but the wear and tear upon the nervous system of the attendants and the Medical Superintendents is such that it may be considered almost a standing miracle that so many of them can bear it for the whole 20 years, before they arrive at the period of superannuation. I have received accounts from the attendants, and from the medical men themselves; and their statements go to show that, in proportion to the whole number, there are more cases of insanity arise among the medical men who are so employed, and the attendants who are so employed, than from any other class. The Committee can well imagine what it must be to be perpetually in the presence of lunacy, some of them in the most exalted state, and some most despondent, but never hardly to pass a night in which they are not disturbed—never to associate with others, nor to have any holiday or recreation, or any relaxation of any kind—to be perpetually in the presence of these lunatics—it has the most lowering and most miserable effect upon the nervous system."

"Is it not the fact that the Act gives a discretion to the magistrates not only as to the time when the superannuation may be given,

if an officer is 50 years of age, and has served 20 years, but also as to the amount of the superannuation. Would you take away the discretion in both cases,—allow every officer and servant in a lunatic asylum to demand, after 20 years' service, a fixed amount of superannuation?" "No; I would not go to that extent. I think that a discretion might be left with the authorities, and I have no doubt they would act with liberality. I would not make it imperative that the officer must have attained 50 years of age; but I should propose that the period of superannuation should be fixed at 15 years instead of 20."

"You would give to every officer a *right* to claim superannuation, subject to the discretion of the magistrates as to the amount, after 15 years' service?" "Yes."

"Have any cases occurred in which a Medical Superintendent has wished to retire after 20 years' service, and has not been allowed his superannuation?" "I know of no case within my own knowledge; but I think that there must have been some, from the communication that was made to me by a Medical Superintendent."

"Is there any particular reason which induces your Lordship to press this upon the Committee?" "Because I think it would tend to improve the status of the medical men."

6. We hail with peculiar pleasure, at all times, the advent of the consecutive numbers of this most valuable *resumè* of psychological literature; and it is with more than ordinary satisfaction that we take up the parts which now lie on our table. In some of our former notices of this serial, we ventured to criticise, but in no unfriendly spirit, the character of its contents, and to suggest attention to the fact that these were hardly of that apposite nature which a first-class scientific and psychological journal should appropriate to itself. The pen of the able editor was apparent, but we certainly noticed a heterogeneous character in not a few of the contributed articles on which we felt in duty bound to animadvert. In the quarterly parts of the present year there is a noticeable improvement in this respect, while the style of the entire is not only *ad rem*, but scientific and scholar-like. Our limits will hardly permit more than a glance at the contents of this highly interesting and important journal, which, however, shall now be attempted.

In the "Psychological Quarterly Retrospect" will be found a mass of information at once interesting and entertaining. The subjects of education, prison discipline, medical and civil jurisprudence, together with other similar topics, receive abundance of illustration from these *notitia* of passing events. In the numbers for January and April are to be found two clear, sketchy papers on "*Literary fools*," including notices of authors, French and English, which are exceedingly interesting. Some

of our readers will hardly be prepared to discover *Smart*, the prose translator of Horace, under this category. Two kindred articles, under the titles of "*Psychological Studies*," embracing notices of Don Quixote and Dante (in the numbers for January and July), will repay a reading. The above papers come under the head of lighter reading, but there is no lack of more weighty material in the current parts of the Journal. *Metaphysics* have their due share in the paper on "The Pyschology of Kant"—and that on "Sir William Hamilton's Lectures on Metaphysics." The latter is an able review of the two volumes of that eminent philosopher's tractates on Metaphysic and Logics, which have lately issued from the press. This paper will be found valuable as an analysis of the profound metaphysician's views of this noble science, as well as a comparison of these views with those of Locke, Stewart, Reid, and others.

The professional reader will find abundance to occupy some studious hours in the papers on Puerperal Insanity, Convulsion, and General Paralysis, as well as in the reviews of scientific works, which are here submitted.

The article on "*Convulsion*" (No. XIII., January), introduces to public notice some recent discoveries and investigations with respect to nervous and muscular action, which are truly astonishing, and calculated, if followed up by further discoveries in the same direction, if not to revolutionize the practice, at least considerably to modify the conclusions of physiologists and pathologists in an important department of medicine.

Dr. Radcliffe appears to deserve the credit of introducing some highly important and suggestive facts connected with the nerve force and its mode of action, to British students, from the French school, and especially from the researches of Dr. Du Bois-Reymond. The Journal thus states:—

"The principal facts under this head are these:—Muscle, in common with nerve and other, if not all, animal tissues, is the seat of definite electrical actions. These actions are only manifested in irritable and living muscle; they are proportionate to the degree of irritability and vitality; they die out as the signs of irritability and vitality disappear; and when these signs have disappeared, and the muscles have passed into the contraction of death, *rigor mortis*, they are altogether at an end. In ordinary contraction, also, there is an unmistakeable *weakening* of that electrical action which naturally belongs to muscle in the state of relaxation or elongation."

These are very singular statements, and will be new to some of our readers. We were wont to consider the phenomenon of muscular contractility as due to the increased energy

and action of the nerve-force, whatever that may be; but, if the experiments of the French philosopher referred to be correct, and they have every appearance of being so, it would seem that muscular contraction is connected rather with the diminution or suspension of this action. The experiments in question are so interesting that we must endeavour to make room for a lengthened quotation respecting them:—

"In these experiments, weights of different sizes are suspended from a small hook that has been previously attached to one of the hind legs, a little above the heel. The frog is then held up by its fore limbs, and a weight that is just sufficient to put the hind leg gently upon the stretch is placed upon the hook. In the next place the toe of the weighted leg is pinched, and the weight is changed for one heavier, until the animal is no longer able to withdraw its leg from the torture to which it is subjected. This being done, the next thing is to divide the spinal cord immediately behind the second pair of nerves; and to go on testing the muscular power of the paralyzed legs. The results are very strange. Immediately after the operation, the muscular power that can be put forth by the weighted leg when the toe is pinched is sometimes nil, but generally it is no more than a third or fourth of what it was before the operation. Fifteen minutes later this power is evidently rallying. In twenty or five-and-twenty minutes it has recovered all it had lost. An hour after the operation it is greater than it was before the operation—perhaps doubled. An hour or two later still, it is certainly doubled, and possibly trebled; and from this time up to the twenty-fourth hour, when the increase generally attains its maximum, it goes on slowly augmenting. The particulars of two experiments with very fine frogs (A and B) were as follows, the weights raised being expressed in grammes:—

	Before the Operation.	Immediately afterwards.	5 minutes afterwards.	15 minutes afterwards.	25 minutes afterwards.	1 hour afterwards.	2 hours afterwards.	4 hours afterwards.	24 hours afterwards.	48 hours afterwards.
A	60 Gram.	20	45	60	80	130	140	140	150	150
B	60 Gram.	10	30	40	60	100	120	130	140	140

"When the increase of the muscular power has attained its maximum, it may remain nearly stationary for six, ten, fifteen, or twenty days, and after this time it fails by slow degrees. In a month, if the animal lives, this power will have fallen to its original value before the operation; and at the expiration of six, seven, or eight

months it may have fallen still lower, until it is not more than a third or a half of this value. It is possible, however, that the increased muscular power would not have failed in this way if care had been taken to exercise the paralyzed limbs by galvanism.

"Nor is it easy to agree with Dr. Marshall Hall in thinking that this increase of muscular power is due to an increased stimulation of the muscles on the part of the spinal cord (which inordinate stimulation had come into play because the controlling influence of the brain had been withdrawn), for there are other experiments which show plainly enough that the muscular power is augmented, not only in a similar, but even in a higher degree, after the muscle has been cut off altogether from the spinal cord.

"In the paper on muscular irritability, to which reference has already been made, and which is deserving of study, as well for the facts as for the opinions contained in it, Professor Engel, of Zurich, has shown that muscles are more prone to enter into the state of contraction after the complete removal of the cerebro-spinal system. In this experiment he clips out the whole of this system, bones and all, and, after five or ten minutes, he finds that the muscles have become so irritable as to be thrown into a state of contraction by a blow on the table. He finds, indeed, that the muscles are as irritable as they are in narcotized frogs.

"Some very conclusive evidence to the same effect is also furnished in the following experiment by Dr. Brown-Séquard. In this experiment the spinal cord of a frog is divided immediately behind the roots of the brachial nerves, and then the nerves proceeding to *one* of the hind legs, cut through at the points where they leave the cord. *Two hours later both the hind limbs are separated from the body*, and the contractility of their muscles is tested by the prick of a needle and by galvanism. This is the experiment. The result is, *that the 'irritability is augmented' in both these limbs, and that this augmentation is most considerable in the limb whose nerves had been divided —in the limb, that is to say, which had been cut off from the spinal cord.*' (pp. 60-63.)

"Even the action of the will upon muscle is not allowed to be that of a stimulus:—

"'Is it not certain,' says Dr. Radcliffe, 'that the will acts in this case by stimulating the muscle to contract? It is difficult, no doubt, to think differently. It is more than difficult to wean the mind from so old an idea. But, on the other hand, it must not be forgotten that the will may have *acted* in bringing about muscular contraction, not by imparting anything to the muscles, but by withholding something from the muscles; and this being the case, we may well refuse to allow a mere opinion respecting the action of the will, however sanctioned by time that opinion may be, to rank as an objection to a view of the action of "nervous influence" in muscular motion, which view appears to arise necessarily out of the general history of "nervous influence" as concerned in muscular motion.' (pp. 64, 65.)"

It is further shown, that muscular contraction is not produced by the stimulus of light, heat, or cold, or, lastly, by that of any chemical or analogous agency. The author's conclusion is, "that muscular *elongation* is produced by the simple physical action of certain agents, electricity and others; and that muscular *contraction* is the simple physical consequence of the cessation of this agent."

The concluding paragraph of this article presents the importance of the objects, discussed in a clear light, and we therefore quote it:—

"Such is a free sketch of the argument by which Dr. Radcliffe attempts to show that convulsion in all its forms—tremor, convulsion proper, and spasm—must be looked upon in a very different light to that in which we have been in the habit of regarding it. The subject is one of great importance—of special importance in psychological medicine; for is not convulsion a most common symptom of disorder of the brain? The subject is one also which claims immediate, as well as serious attention; for if Dr. Radcliffe is right, the natural conclusion is, that the more appropriate means of treatment will be, not those which are calculated to calm excessive stimulation, but those which will sustain and rouse the powers of a flagging system."

Under the head of *Reviews*, several volumes, interesting to the psychologist, pass under the observation of the editor, in these numbers of the Journal, some of which are noticed, as we think, with just severity, while others have a rather hard measure dealt out to them. Among the former class we may notice the treatise "On the Ganglionic Nervous System," by James George Davey, M.D. We fully agree with the editorial remarks made on this volume, as discovering much that is crude and inconsequentive in its reasoning, and unsupported as regards its adduction of facts. But we are by no means disposed to agree with the rather wholesale strictures passed on the admirable little manual of Dr. Noble on the "Human Mind in its Relations with the Brain and Nervous System." Notwithstanding the editorial protest here offered to some of Dr. Noble's positions, we look upon his volume as a really "good handy book on physiological psychology." It is quite true that some of the most recent experiments of Dr. E. Brown-Séquard go a good length to qualify some few of the anatomical remarks of Dr. Noble, chiefly, perhaps, in relation to the *cerebellum*, viewed psychologically, but the body of the work is sound in principle, correct in detail, and manifests so much of the thoughtful metaphysical observer, as well as the practical physiologist, that we have no hesitation in recommending it to the

entire class of general students, for whom it was originally intended.

Art. II., in No. XIV. of the Journal (April), "On the Artificial Production of Stupidity in Schools," is a paper which we should desire to see in the hands of every parent capable of appreciating its sound advice, as well as of every person in the kingdom intrusted with the educational charge of children. The acknowledged deficiency in the present instruction afforded in our schools, especially those for the poor and working classes, is here traced, and with much truth, to the culpable neglect of the training afforded to the powers of reflection, comparison, volition, &c., while the sensational powers and those of spontaneous remembrance are over-taxed. Most striking and lamentable are the instances here adduced of this faulty mode of education.

The glaring deficiencies, and worse, occurring in the public "elementary schools" of Great Britain are illustrated by some anecdotes and facts, which would be amusing in the extreme, but for the depth and the seriousness of the evil exposed. The same remarks apply to the able writer's exposure of the evils existing in the schools of the same nature for the upper classes.

In the Number of the Journal for January will be found some exceedingly valuable and suggestive matter, connected with *crime*, in its relation to *insanity*, under the heads of "The Obscure Mental Disorders of Criminals," "The Statistics of Justice;" and also in the April Number, in the article entitled "Judicial Psychology in France." The subject here treated is as delicate as it is difficult. To ascertain the precise point where individual responsibility, as regards sin against the social system, ends, and the State's accountability, as intrusted with the guardianship of the common weal, commences, is a problem, for the solution of which rare endowments, as well of judicial skill as of physical and psychological knowledge, are required. The articles above referred to throw considerable light on the subject.

The October and concluding Number of this Journal for the current year, in point of interest and valuable matter, is quite equal to its predecessors. Whether *variety* in its contents has been sufficiently studied, may admit of a question. Very considerable prominence is given to the medico-legal department of mental disease, and also to the statistics of homicide and suicide. Perhaps some abridgment and condensation here might have rendered this Number more scientifically acceptable and useful. We are extremely glad to notice the terms of merited reprobation with which the mawkishly wicked efforts

of some novelists and poetasters to throw an air of interest and romance over the crime of suicide is noticed by the editor. Such attempts are as disreputable and unphilosophical as they are morally bad to a degree, and well deserve the exposure with which they are here visited.

A cursory glance is taken at the "Belfast Revival," in the Psychological Quarterly Retrospect, and in it the balance seems to us to be fairly held between those interested parties who have endorsed the entire movement as of Divine origin, ignoring its evils and excesses, and those who attempt to set the whole aside as mere human folly, and worse. We are glad to perceive sound mental philosophy and pathological skill brought to bear on this extraordinary but important and interesting movement, and, now that its crisis may be considered as past, and its results appreciable, we earnestly hope that the editor and his contributors may be induced to return to its consideration at no distant date. The pamphlet of Archdeacon Stopford, entitled, "The Work and Counter-work; or, the Religious Revival in Belfast," is in a separate article reviewed, and highly and deservedly commended. But we must correct the writer of this critique on the Archdeacon's excellent and well-timed publication in one point, in which he states that "the clergy, of all denominations, were wholly unprepared for the emergency; were ignorant, speaking generally, of what it was they witnessed; and do not appear to have imagined that medical men could have any special knowledge of the causes in operation, or any special duties with regard to the effects produced." Now, so far at least as one of the eminent and experienced ministers of religion in Belfast, the head-quarters of the "Revival," was in question, we are enabled to state, from personal knowledge, that the Rev. William M'Ilwaine, Incumbent of St. George's Church, was not "ignorant" of, or slow in discovering "the devices" that were going on, or in denouncing, both from the pulpit and in print, what he "witnessed" of the extravagancies and immoralities of the "struck" ones, and this, we have reason to believe, with the best effects. Had others of his brethren acted in the true spirit of religion, as both he and subsequently Archdeacon Stopford did, they would have been better fulfilling their sacred mission on this trying occasion than throwing themselves into the movement so inconsiderately as was the case, but which, of course, they felt it their duty to do. Mr. M'Ilwaine deserved the more credit for his moral courage in resolutely and perseveringly testifying against what was palpably the work of man in this so-called "Revival," inasmuch as not only "all the pious ladies of Bel-

fast," as the writer in the Psychological Journal remarks, "would have combined to destroy the practice of a doctor who had expressed a doubt of the Divine origin of the prevailing visitations;" but "pious" ministers hesitated not to denounce him as "a heathen man and a publican" for his faithfulness. Such was the reign of terror that existed, if it do not still, in the enlightened town of Belfast during this "revival" of religion(?).

8. The contents of the "Journal of Mental Science" for the past year, have been varied and valuable, as hitherto; and though the subjects discussed are generally of a special character in relation to insanity, yet they are of the utmost importance to each member of our common profession to be acquainted with; and hence this Journal is eminently entitled to a place in the library of every medical practitioner desirous of keeping himself *au courant* with things as they are in reference to insanity, a specialty of the profession which of late years has been commanding so much attention, and is of such deep moment to all. The January Number contains, amongst other articles, able reviews on the Report of the Royal Commissioners of Inquiry into the Lunatic Asylums of Ireland; Dr. Nugent's letter thereon; and the Twelfth Report of the English Commissioners in Lunacy; with Notes on the Prognosis in Mental Disease by C. L. Robertson, M.B. Cantab.

The April Number has an excellent paper, by Dr. Conolly, on the Residences for the Insane, and one by Dr. Bucknill, on Lunacy Law Reform, and the proposed legislation on Irish Asylums, which show much practical acquaintance with the points brought under observation. In the July Number is a valuable paper by Dr. Boyd, of the Somerset Asylum, on the Necessity of the Study of Insanity as a branch of medical education, in the course of which he remarks that—

"If cases of insanity were received into casual wards, fitted up for the purpose, in an hospital, even for a period of fourteen days, the medical student would have an opportunity of being made acquainted with the preliminary treatment during the acute stage, and thus obtain a practical knowledge which he would find most useful hereafter. The lecturer on the practice of medicine would have the means of referring to cases in, or which had been in the hospital, for his illustration of that portion of the lecture, which must now be without illustration, and, therefore, comparatively uninteresting. Large numbers are not essential; a few cases will serve for clinical instruction."

The suggestion contained in the foregoing extract is, we think, well worthy of being acted on, as the systematic rejection of cases, having the most remote approach to mental disease, from ordinary hospitals, has often surprised us. The medical student should not thus be left entirely ignorant of any practical acquaintance with an affection which, sooner or later, he will be called upon to treat in private.

In this Number, also, is an elaborate review of the First Report of the General Board of Commissioners in Lunacy for Scotland, which we have already shortly noticed ourselves. Whilst, however, admitting the general excellence and fairness of this review, we must, in passing, express our regret at its tone and spirit in some respects. The Journal in which it appears professes to be the organ of the Association of Medical Officers for the three kingdoms, and, therefore, should be careful in avoiding any invidious national comparisons with the establishments to which those officers are attached. Forgetful of this catholic spirit, the able writer of the review in question speaks like an Englishman of what he calls *Scotch* asylums; reminding the Scotch, that although at one time a very literary nation, having, "some fifteen years ago, before the erection of the English County Lunatic Asylums, had the best public asylums in the island," now, he states, "lunacy, medicine, and literature, have progressed in the southern part of the island at a pace with which our friends in the North have hardly kept up." The writer intimates that, "the reports brought home by English Superintendents, out on their holiday, of the condition of the Chartered Asylums," do not quite bear out "the high character" of these asylums; or the "flattering testimonials with which the young assistant physicians of these institutions have made their *debut* in the south." We repeat, that we think it very unhappy, the organ of a general association should thus so unnecessarily throw in an apple of discord by the introduction of "we," the south, and "they," the north ends of the island. It would have been much better had the *we* pointed out impartially what was good and what was bad in the three sister countries, and not become identified with one in particular, and hold it up as all perfection in "lunacy" progress, which we respectfully deny. We have had ourselves opportunities of seeing the working of some of the principal Chartered Scotch Asylums, and the impression left on our mind was a very favourable one of their general conduct. We believe they excel the English asylums in some most important points of management, namely, that

of giving the resident physician "paramount authority" in the entire arrangement of the house, and in engaging and dismissing the attendants, without any interference on the part of Boards of Directors. We know that a very different state of things exists, or at least did, within a recent period, exist, in this respect, in not a few of the English County Asylums. Nor do we agree with the writer in his statement of the want of classification in the Scotch asylums, and of the "parish pauper patients being sent sadly to the wall by the admission of private patients."

We have often thought that it would be a great boon to the public in England and our own country, if something akin to the Scotch system were introduced into them; if higher class asylums were by some means connected with the county and district asylums for the reception of private patients of all classes; and we think we can see an evident tendency to a consummation like this, so devoutly to be wished for on every account on the part of both the public and the authorities. The publicity of such institutions would afford the best guarantee against any of the evils stated to be connected with private asylums, the proprietors of which, no matter how personally honourable and upright, are placed in a false position before the public.

The last issued Number—that for October—has the official Report of the annual meeting of the Association of Medical Officers of Asylums and Hospitals for the Insane, held in Liverpool in July, with the address of the President, Sir Charles Hastings. The meeting was not either largely or influentially attended, nor does there appear to have been any subject of much interest discussed thereat. The next annual meeting—that for 1860—was fixed to be held in London, under the presidency of Dr. Bucknill, who, we have no doubt, will perform the duties of his important office with much *eclat*. There is a very copious Report in this Number of the extraordinary case of Miss Ewings, tried under a commission *De lunatico inquirendo*, at Exeter, in August last, which lasted five days, and which resulted in the jury pronouncing Miss Ewings not to be of sound mind, "so as to be sufficient for the government of herself and property." This lady, aged 80, had bequeathed the great bulk of her property, namely, £12,700, to Dr. Shapter, of Exeter,—an entire stranger to Miss Ewings; whose acquaintance with the lady commenced by his being called in to visit her in his professional capacity shortly after she had been removed from an asylum, and during the course of his professional attendance she insisted on his taking her instructions for

her will, and making him her residuary legatee, to the above amount. The verdict of the jury, however, has of course rendered this will null and void.

9. Dr. Arlidge, the author of the recently published volume "On the State of Lunacy," informs his readers, in his prefatorial observations, that—

"The subjects discussed will, on the one hand, show that the present is not to be reckoned as a medical treatise, but as one addressed to all who are interested either in the legislation of lunatics or in their well-being and treatment; and, on the other, make good, it is trusted, the assertion that it occupies an untrodden field in the literature of insanity, and that its matter is good, even should its manner be thought not so. Assuming the publication of the book to be justified, it only remains for the author to add, that he has not undertaken its composition without bringing to the task thirteen years' study and practical experience among the insane,—treated in private houses, in licensed houses, and in public asylums; together with the fruit of observation, gathered from the visitation of most of the principal asylums of France, Germany, and Italy."

From the examination which we have been enabled to make of this book, we consider it evidences much careful consideration in its compilation, and that its contents generally and suggestions are valuable, and deserving of the best attention. Dr. Arlidge has been a very painstaking and industrious, and, we may add, useful labourer in all matters in connexion with the best interests of the insane; and this, his latest contribution to our stock of information as regards insanity, does him infinite credit, and will, we are satisfied, be found a most useful work of reference,—its several details being collected from the best and most authentic sources, and accordingly an indispensable book in the hands of all who desire either to study insanity not so much medically as in its social aspects, or to refresh the memory on points of daily interest to be acquainted with, and which will be here found faithfully recorded and practically discussed. It is dedicated to Lord Shaftesbury—a nobleman eminently deserving of this mark of respect; and is divided into eleven chapters, severally treating of the number of the insane; the increase of insanity; present inadequate provision for the insane in asylums; curability of insanity; causes diminishing curability, and involving chronicity of insanity; the same subjects continued, as operating within asylums; on the future provision for the insane; registration of lunatics; appointment of district medical officers on the Lunacy Commission; and lastly, on some principles in the construction of

public lunatic asylums. Thus it will be seen from this synopsis that Dr. Arlidge's volume abounds with subjects of the greatest interest to all who are engaged, directly or indirectly, in the care and treatment of the insane.

10. Dr. Burns, we perceive from his "Dissertation," is a follower of Comte and an admirer of Kant. Strange to add, here and there throughout his "Inaugural," references to a Divine Revelation of a respectful kind occur, while its Author is always named with devout acknowledgment. Dr. Burns tells us, and truly, that "for the Christian philosopher his belief in the existence of a Supreme Creator and the glorious hope of an eternal existence in a future state rest upon other and higher grounds than man's wit or wisdom."

We are not, however, distinctly informed what those higher grounds are, or where they are to be discovered. This is the vital defect of this elaborate, highly intellectual, and, we are bound to add, moderate and respectful, though erroneous plea for materialism. That we do its author no injustice in so saying, will be apparent from the following quotation, where his views are clearly expressed :—

"Let us now, laying aside, as much as is possible, such prejudices as spring from the bias of previous education and habitual modes of thought, examine fairly, upon the data already enumerated, whether there is sufficient testimony for the generally accepted belief in the existence of mind as a real entity, rather than a mere process. Has it an independent and possibly separate existence, apart from the nervous organism, through which, as an instrument merely—though terrestrially, at least, indissolubly connected with it—it brings itself into relation with the universe? Is there any solid basis for the belief in an immaterial principle, unconsciously manifested in the preservation and development of the body, consciously in the mind? Do ideas exist implicitly *in* the mind, or do they constitute mind itself?"

The latter term of this proposition, which Dr. Burns "at once and thankfully accepts," and the proof of which, or rather its attempted proof, are the staple of his essay. In thus, however, avowing himself a materialist, he proceeds to "deny absolutely and at the outset that materialism is but a synonym for infidelity," and we are bound to accept this disclaimer, if by infidelity be meant all disregard for a Divine Being, or disbelief in Divine religion. But how Dr. Burns can reconcile his theory with belief in the inspired volume, which states, in very express terms, the exact contradiction to his conclusions, we are at a loss to determine. The genesis of man, as given by In-

spiration, expressly states the constituent parts of his being as a body, formed of the dust of the earth, and a spirit (or the breath of *lives*, as the original record with marvellous accuracy expresses it). This is in direct opposition to Dr. Burns' theory, that man, in his highest aspect, is but organized matter. With this serious exception, this "Inaugural" of Dr Burns discovers, we are frèe to admit, both acute thought and accurate reading.

10. The small and unpretending volume of Dr. Robinson, on "The Treatment of Mental Disorders," contains more information of a really practical nature than many more pretentious and elaborate treatises on the same important subject. Dr. Robinson has come to his task prepared by much professional experience, and has treated his subject with the perspicuity and simplicity of one well acquainted with it, and whose distinctive object was the information of his readers, and the amelioration of society at large. After a brief review of the physiology and pathology of the nervous system, Dr. Robinson proceeds to the classification of mental disorders, then treats of its etiology, and finally of its curative treatment. Under the first of these heads is introduced a classification of the subject, adopted from the Report of the Metropolitan Commissioners in Lunacy, which appears to us as practically useful and scientific as any we have seen.

1. Mania, which is divided into—
   - *a. Acute Mania*, or raving madness.
   - *b. Ordinary Mania*, or chronic madness of a less acute form.
   - *c. Periodical* or *Remittent* (intermittent?) *Mania*, with comparatively lucid intervals.

2. Dementia, or decay and obliteration of the intellectual faculties.

3. Melancholia,
4. Monomania,
5. Moral Insanity,

} These three forms are sometimes comprehended under the term Partial Insanity.

6. Congenital Idiocy.
7. General Paralysis of the Insane.
8. Epilepsy.

In treating the forms of mental disorder, Dr. Robinson enters sparingly, but, as we think, very judiciously, into the vexed question of the accountability of the insane, in a legal sense, and also, as connected with the same subject, with that of the amount of personal liberty assignable to the class of our fellow-subjects so afflicted. His remarks under both these

heads will be found in the first chapter of Part II., and deserve an attentive consideration. We only regret that our limits forbid extracts, else we should willingly afford them. The work is enhanced in value and usefulness by numerous statistical tables, which help to throw additional light on the present state of mental disease throughout Great Britain, while the *cases* given will be found both useful and available to the medical practitioner. On the whole, we have much pleasure in commending Dr. Robinson's useful Manual to general perusal. Here and there some statements occur which, we think, may not be destined to insure general or, at least, universal acquiescence from the psychological portion of our readers; as, for example, where the author appears to ascribe, without reservation, the "demoniacal possessions" of the Jews (meaning, it is presumed, those of Scripture) to other than supernatural causes. If this be the author's meaning of the passage, he would do well to reconsider it, as coming from an avowed believer in the Christian Revelation. This, however, and one or two other minor points, which we forbear to notice, as of trifling moment, cannot detract from the value of the entire work.

11. Mr. Hulme's translation on the all-important subject of "Hallucinations" is a very seasonable book, and one that has been ably treated by its author, Dr. Brierre de Boismont. We have not seen the volume in its original form, but, judging from the easy run of the English version, and its entire want of idiomatic peculiarity, we are bound to accord to the translator the meed of care and ability for the task which he has undertaken and so successfully executed. The professional reader will not be disappointed, whether as to interest or profit, in the body of this work, and in the chapter (xiii.) on the *treatment* of the mental malady will be found highly useful and important hints and directions, but for which we regret not being able to find room as we would have desired. The general reader also will find himself introduced to a subject which is, or ought to be, of interest to society at large, and by its perusal he will discover means of accounting for many natural and psychological facts, which, but for the light thrown on them by this and kindred treatises, would take their place among the marvellous and miraculous. We need scarcely add, that knowledge of this sort is peculiarly suited to the present day, and to the circumstances of daily occurrence around us. We cordially commend the work to the careful study of all interested in the subject so well handled in its pages.

12. The issue of the American Journal of Insanity, the only one we have beside us at present, that for January, 1859, has, amongst other valuable and practical papers, one of great interest on "Marriages in Consanguinity," which well merits the attention and consideration of the physician, physiologist, psychologist, and moralist. It is translated from M. Devay's "Hygiène des Familles." The author, after entering much at length into this important subject, gives his "own facts and observations" in connexion therewith, from which we take the annexed extract:—

"It is now many years since our researches upon this subject were undertaken. In 1846, on the first publication of our 'Family Hygiene,' we pointed out certain facts tending to throw light upon the question. 'Our cases,' we then wrote, 'are thirty-nine in number. Thirteen have been collected within the circle of our acquaintance; the other twenty-six have been furnished either by our own patients or from authentic sources. In the first category we find two males who have married their own nieces; three aunts who are united to their grand-nephews; all the rest are alliances between first or second cousins. Now, eight of these marriages have been sterile, although the parties were by no means of disproportionate age; four have engendered scrofulous children, cut off in the flower of their years, not one of whom has passed the age of fourteen. The last of these unfortunate alliances, it is true, brought into the world an offspring of sufficient vitality, but so afflicted by ichthyosis—a loathsome cutaneous affection—as to have been seriously embarrassed in growth, and in worldly prospects. We may add, moreover, that two of the scrofulous and ricketty children were born with supernumerary fingers, as though nature had sought to associate deformity with the original feebleness of constitution. Among the twenty-six cases included in the second category, we find eleven unfortunate alliances,—all of them between first cousins. An epileptic child is the issue of one of these marriages; three of the others have produced children who have died in convulsions, or of hydrocephalus. Among the other seven we reckon two sterile unions; and of the five remaining, two of the offspring present a state of health which leaves very much to be desired. Four only of these marriages, to complete the number of twenty-six, have been fruitful. Their offspring appear to enjoy a moderate degree of health.' . . . . . .

"Let us study the language of facts. To the thirty-nine observations cited in 1846, we have now to add eighty-two collected since that time, and which relate to facts we have ourselves verified. We pass over some others of a semi-authentic character, which, having been furnished us by credible persons, to be sure, but who were strangers to the science of medicine, pass with us as only hearsay evidence.

"It will be readily perceived with what delicacy and discretion

researches of this nature have to be made. While other points in the domain of medicine require a detailed circumstantial examination, here the honour of the physician demands a prudent reserve. It is not for the interest of a family to be thus made an object of notoriety.

"We have a total of 121 cases, in which it has been permitted us to see the results of the influence of consanguinity on conception and its products. The eighty-two new facts present a pathogenic summary, having much analogy with the preceding thirty-nine. Of these eighty-two, the number of cases of sterility reaches fourteen; which, added to the eight previously noted, makes the whole number twenty-two. These alliances, which are, for the most part, of from eight to ten years' standing, were between cousins or the children of cousins. Four only were of uncles who had espoused their own nieces. Among the twenty-two cases of sterility we reckon sixteen that were absolute,—that is to say, without conception; and six in which, although conception took place, it was followed by abortion in the first months of gestation. Out of the whole number of 121, we have established seventeen cases of abortion. Thus we have on the one hand six abortions, not followed or preceded by any ordinary conception; and, on the other, eleven cases in which there was, either before or after the abortion, a full term pregnancy.

"Whenever the attention of observers and physicians shall be sufficiently drawn to this matter, they will be able almost always to establish this important fact, that nature seems to testify by degrees its repulsion towards marriages founded on consanguinity. Very often (and this may indeed be regarded as a favourable result) it visits them with sterility; and if they be fruitful, it makes of their issue, odd, incomplete specimens, and brands them with anomalies. At last it has still in reserve those deviations from the physiological type of the race, the veritable monstrosities. In any considerable series of products, the issues of consanguineous unions, we almost always meet with one or more specimens affected by those singular accidents of organization so appalling and so afflicting to a family. We sometimes find, too, congenital blindness, as well as cases of hemiplegia. Of all the abnormal deviations, that which we have most frequently observed is a superfluity of fingers or toes. We have seen in a family of three children, whose father and mother were related in the fourth degree, two of these children presenting supernumerary little toes; the hands were normal. In our 121 cases we have met with this anomaly seventeen times; and of these, thirteen times in both hands. The contrary phenomenon, the absence of fingers or toes, occurs less frequently; twice only have we observed it, and in both cases in the hands alone: the little finger was wanting."

An extended notice of the Royal Commissioners' Report on the condition of the insane in Scotland is also amongst the contents of this Number of the Journal.

13. Dr. Seymour's "Letter" to Lord Shaftesbury "On the Laws regulating Private Lunatic Asylums" evidences an intimate acquaintance on the part of the writer with the subjects discussed in it, which are of much interest, and deserving the attention of the philanthropic and influential nobleman who has been thus addressed. Dr. Seymour had formerly been one of the Metropolitan Commissioners in Lunacy, an office which he resigned twenty years ago, his private and hospital practice requiring his undivided attention. He has still, however, not lost sight of the interests of the insane, as his present Letter manifests; and also a former publication of his on the "treatment of insanity," which was not without its merits. He states his principal object in the "letter" before us is, "to explain the laws relating to lunatics (in private asylums), compare them with those of a neighbouring kingdom, and support considerations to amend the difficulties under which the laws avowedly labour." Dr. Seymour recommends that every means should be used to induce the relatives and friends of patients in private asylums to visit them; and on this subject he quotes from an examination of Sir H. Halford before a Committee of the House of Commons in 1814–15, who, to the question, "what, in his opinion, would best conduce to the well-being of lunatics in confinement?" replied, "Oblige their friends to visit them." As a general rule, this, no doubt, is very desirable, but the exceptions are not few in which the visits of friends would do great and positive mischief, and in all cases much discretion is required.

"When a Commission in Lunacy has been sealed," Dr. Seymour observes, "the unhappy object is placed in a lunatic asylum, or in a house with attendants, under the care of the person to whom he is intrusted; and of course in these cases his personal liberty is completely, or nearly so, abridged: nothing short of confinement has been adopted by our laws. In this respect it appears to me that the authorities do all, and the family of the lunatic little. On the contrary, in France the greater part of the care is thrown on the family and the sanction received from the Court."

The author then subjoins a translation of the law of "interdiction" in regard to insane persons from the Code Napoleon, known to have been the production of the most learned and experienced of the French Bar, after long deliberation. This "interdiction" contains twenty-four clauses with reference to the powers to be exercised in regard to an insane patient; and also a second portion of it, entitled, "Family Council," containing fourteen clauses. Dr. Seymour observes, in respect of the system pursued in France:—

"It must be obvious that much is done for the protection of the lunatic, but there is no graduation of restriction; all found of unsound mind are equally interdicted, though they might go about with impunity, or when their unsoundness of mind was perfectly harmless. I would, with great humility, call your Lordship's attention to the clause in the French code, which might, after the consideration of the law officers of the Crown, be modified so as to lessen the extreme penalty of unsoundness of mind, confinement in a lunatic asylum for a series of desolate years. The clause is this:—'On rejecting a demand for interdiction, the tribunal may, nevertheless, if circumstances require it, order that the defendant shall not hereafter plead, compromise, borrow, receive personal property, purchase, or give receipts, alienate or mortgage his property, without the assistance of a counsel, who shall be appointed at the same time.' This clause has been found to work well in France."

Dr. Seymour, in the course of his comprehensive *brochure*, remarks that on the proximate causes of insanity little advance has been made for the last twenty-five years, which, however, arises from the very nature of the inquiry, guarded, as it is, by the fears of all those related to the patient, who would be glad, if possible, to bury the past itself in oblivion; all, high and low, shrinking from acknowledging that insanity exists in any member of a family. In fact, as Dr. Seymour well and truly remarks, "there is no asseveration too strong, no trick too great to hide, even from the medical adviser, that others in the family beside the patient have experienced this calamity."

The author appeals strongly and earnestly for the establishment of licensed institutions for the reception of those of reduced pecuniary means, the subject of mental disease, who were accustomed to the comforts and refinements of their own homes; but who, prostrated by insanity, are shut out both from private and public asylums, the former from their great expense, the latter from their being for "paupers" alone—and even were this otherwise, there would be, as Dr. Seymour most properly observes, "no small cruelty in mixing together persons of such different grades, and accustomed to such different treatment in health." The want of such intermediate institutions is a clamant evil, and should most unquestionably be remedied without delay, and that, too, by the Government of the country, whose bounden duty it is to do so; the attempts in this way on the part of private individuals having signally failed. In conclusion, we think Dr. Seymour has done excellent service by this emanation from his able and philanthropic pen, and we sincerely desire to see his humane suggestions carried into practice, and that, too, without any further loss of valuable time.

14. The "Tables for the Diagnosis of Diseases of the Brain," by Dr. J. Russell Reynolds, we consider well calculated to accomplish what their author designed—namely, that "by their aid the student might make approximative diagnosis where otherwise he might be lost in mystery or confusion, and thus assist him to lay the basis of a more valuable, because self-acquired, information." The Tables in question are divided into four large groups—namely:—

I. The acute febrile diseases, containing simple meningitis (with premonitory symptoms, general disturbance, mental changes, sensorial changes, motorial symptoms); tubercular meningitis, rheumatic meningitis; cerebritis, general; cerebritis, partial; continued fever and gastric remittent in children; acute mania.

II. Apoplectic diseases: Congestion, hemorrhage (cerebral, ventricular, arachnoid); softening, or partial cerebritis. Uræmia from "Bright's disease."

III. Acute convulsive diseases.—A. Eccentric: Specific diseases, such as Exanthemata. Irritation, such as dentition, &c.—B. Centric: Dynamic, or idiopathic. Congestion. Softening. Tubercle of brain and tubercular meningitis, assuming convulsive form, especially in the child. Uræmia.

IV. Chronic diseases of mixed character: Nervous disturbance, convulsions depending upon gastric, intestinal, uterine, or other diseases. Hysteria. Epilepsy, simple or uncomplicated. Chronic meningitis (without developed insanity). Tumour. Chronic softening.

15. Before noticing the contents of Dr. Rogan's last Report of the District Hospital for the Insane at Derry, we must refer for a moment to what we stated of that well-conducted establishment in our last Review in respect of its dietary, which was, that "no solid meat was allowed on any day in the week, or at any period of the year, to patients in ordinary, whose dinner meal consisted of 'oxhead soup' and bread on but two days in the week, and of 'vegetable soup' and bread on the other five." Exception was taken to this statement, and our attention called to the dietary, as contained in that printed Report, to show that the Review had underrated the matter. We now very willingly give the dietary table as then and still in use, from which it will be seen that, as regards "solid meat," such is permitted to be indulged in by the Derry inmates, in the shape of "soup," two days in the week only. The dietary of the house, as regards the dinner, is found to be as follows:—

"Dinner. Sundays and Thursdays—Males, 1 quart of soup and 12 ounces of bread; Females, 1 quart of soup and 8 ounces of bread. Tuesdays and Saturdays—Males, 1 quart of ox-head soup and 12 ounces of bread; Females, 1 quart ditto and 8 ounces of bread. Mondays, Wednesdays, and Fridays—Males, 1 quart of vegetable soup and 12 ounces of bread; Females, 1 quart ditto and 8 ounces of bread. N. B.—The soup allowed on Sunday and Thursday is made from 40 lbs. of beef for 100 quarts; and that used on Tuesday and Saturday is made from ox-heads, 1 to 25 quarts. The soup contains oatmeal, rice, peas, and garden vegetables."

Our oversight was not giving credit for the soup on Sundays and Thursdays, which contains about six ounces of beef for each patient—that is, if beef without bone be used, which, however, is not stated—and if not, one-fifth at least should be deducted for bone, so that, after all, this "soup," the representative of "solid meat" in this institution is not so exceedingly generous in its constituents; the "vegetable soup," of course, contains no beef; and as to the "ox-head soup," there is little fear of it over-stimulating the patients with but one ox-head to every twenty-five, each head being considered equivalent to five pounds of meat, or four ounces to each quart. Having made this explanation, we take up the concise and practical Report of Dr. Rogan for the present year, from which we gather that the number of patients admitted during the year was 82; that, of 298 under treatment, 40 were discharged recovered; 30 ditto, more or less improved; 4 not improved; and that 10 had died, leaving at the end of the year 214 in the house, of whom but 24 were considered curable. Water, so essential to the health and comfort of the patients, was still inadequately supplied, and to which serious defect Dr. Rogan called the attention of the authorities in his Report last year. The year's expenditure was £4384 15*s.* 11*d.* The sum expended for tobacco alone was £62 18*s.* 5*d.*; and for wine and beer only £19 0*s.*9*d.* The average expense of each patient was £20 0*s.* 5*d.* No casualty out of the ordinary course occurred during the year amongst the inmates.

16. The Mullingar District Hospital for the Insane Poor includes three counties, viz., those of Longford, Meath, and Westmeath. Its very efficient and zealous Superintendent Physician, Dr. Berkeley, in his fourth Annual Report for the year ended 31st May last, informs us that "at the close of the year ending May 31, 1858, there remained in the institution 100 males and 109 females; total, 209. The number admitted during the year, viz., 37 males, and 35 females = 72, exhi-

bits a falling off of 3 as compared with admissions in the preceding year. The total number under treatment during the year amounted to 281—namely, 137 males, and 144 females; of which there were discharged (recovered and relieved) 21 males, and 15 females; and 15 males, and 6 females (21) were removed by death, leaving 217 in the asylum at the date of this Report." The causes of death are stated to have been:—bronchitis and disease of lungs, 1 (male); congestion of brain, 1 (male); consumption (phthisis?), 1 (female); disease of lungs, 1 (female); dysentery, 2 (1 male, 1 female); effusion of brain, 2 (males); general paralysis, 1 (male); maniacal exhaustion, 3 (males); ditto, with softening of brain, 2 (males); ditto, with diarrhœa, 2 (1 male, 1 female); ditto, with wasting of body, 2 (1 male, 1 female); maniacal debility and epilepsy, 1 (female); paralysis from apoplexy, 1 (male); pneumonia, 1 (male). The expenditure for the year amounted to £4701 2*s.* 1*d.* The daily average cost of each patient, including all charges, is stated to have been 1·1¼. The diet table of this institution is a reasonably substantial one, affording at the dinner meal half a pound of "meat" on four days in the week to each patient, male and female, with half a pound of bread. We presume that the "meat" is served up with vegetables, but its particular method of cooking is not stated in the dietary. The dinner on the remaining three days consists of new milk (1 pint), and bread (ten ounces); and the supper, every day, of bread (8 ounces, males; 6 ounces, females); and cocoa. It is stated in the Report by Dr. Berkeley, that "the works of improvement, in pursuance of the award made by the Treasury," had been brought to a termination, but not a satisfactory one, the building not being in the least improved, and "the walls still as pervious to the wet as before the improving operations commenced." The Mullingar establishment, erected under the Board of Works, being only a few years in operation, it speaks very badly for the oversight exhibited by that department, that the buildings should in the first instance have been so slovenly and badly executed as to require repairs so soon; and in the next, that those so-called repairs should have proved nothing of the kind.

17. According to the Report for the year ending 31st March last, of the Belfast District Hospital for the Insane, there were under treatment during the year 458 patients, of whom 250 were males, and 208 females. The new cases of admission, embraced in the above total, were 114—namely, 57 exactly of each sex. There were discharged during the year, 83—40

males, and 43 females; of those discharged, 65, viz., 33 males, and 32 females, are under the head of "recovered;" and 18, viz., 7 males, and 11 females, under that of "relieved." The deaths were 18—12 males, and 6 females; leaving in the house under treatment at the close of the year, 198 males, and 159 females = 357. Of the 357 remaining, 230 were considered alleged or incurable cases, and 127 "probably curable." The chronic causes of insanity of the 114 new admissions for the year were:—abuse of medicine, 1 (male); apoplexy, 1 (female); bodily ailments, 7 (4 males, and 3 females); disappointed love, 2 (females); epilepsy, 1 (male); excessive study, 1 (male); fright, 5 (3 males, and 2 females); grief, anxiety, &c., 11 (4 males, and 7 females); intemperance, 11 (7 males, and 4 females); puerperal condition, 1, paralysis, 1 (male); religious excitement, 3 (2 males, and 1 female); hereditary, 12 (7 males, and 5 females); unknown, 57 (25 males, and 32 females). The causes of death were:—maniacal exhaustion, 4 (females); paralysis, 3 (females); epilepsy, 2 (males); general debility, 2 (males); phthisis, 2 (1 male, and 1 female); apoplexy, 1 (male); dysentery, 1 (male); suicide by suspension, 1 (female). This amount of mortality was considered exceedingly small, being under 6 per cent. The case of suicide occurred between night and morning, after the deceased had been seen to bed as usual, and in the morning, on her room being entered by the attendant in charge, she was found quite dead, suspended by the neck, by means of the bed-sheet, from the ventilator of the room. There were so many as twenty-five of the admissions of the year suicidally disposed, all requiring the most constant vigilance; and fifteen had a homicidal tendency, and who also occasioned much anxiety to guard the other inmates from their violence. The house throughout the year was overcrowded, and unable to give accommodation to the applications for admission. The expense of maintenance for the year was £6738 18*s.* 2*d.*, making the average annual expense of each patient, all charges included, £19 8*s.* 2*d.* The farm and garden produced a net profit of £304 9*s.* 9*d.*, both being laboured entirely by the inmates, the total number of whom employed at various duties, in-door and out-door, was 274 (179 males, and 95 females). The principal occupations of the males were, farm labour, 80; pumping water, 30; sweeping yards, &c., 20; assisting servants, 12, &c.; and those of the females, spinning, 20; washing, 20; knitting, 16; making and repairing clothing, 14, &c., &c. In the Report is contained a strongly-worded petition to the House of Commons, by the Board of Governors, against the provisions generally of the "Lunatic Poor (Ireland) Bill," then

before the House, but subsequently withdrawn by Lord Naas, the then Chief Secretary of Ireland. The petition earnestly remonstrated, in particular, against the compulsory clause the Bill contained in regard to the appointment of chaplains, observing under that head:—

"That until the year 1854, when chaplains were admitted into the Asylum, in deference to the wish of the Lord Lieutenant of Ireland, this institution stood very considerably in advance of any in Ireland, having chaplains, in its per-centage of cases cured and relieved. During the two years, however, in which chaplains officiated, from the excitement produced by their attendance on the patients, and other causes connected therewith, the per-centage of cases became diminished to the extent of one-third at least; but since the discontinuance of chaplains for the last three years, this institution has recovered its distinguished position in regard to the number of those cured and relieved. Petitioners, therefore, without desiring to interfere with the management of other asylums, most respectfully solicit that in any Bill which may pass your honorable House the appointment of chaplains shall be left exclusively to the discretion of the Board of Governors for the time being: in making which request they are sustained by the repeated and unanimous declarations of the Grand Juries of the three counties with which this Asylum is connected."

Here, then, is cause and effect most palpably manifested in their results, and surely under such circumstances neither the Executive on the one hand, nor the Legislature on the other, both having nothing but the welfare of the insane patient in view, it is to be presumed, will hereafter persevere in advising and forcing, respectively, the appointment of a class of officials which has proved to be absolutely injurious to the patients? Let well alone, we emphatically say, in such a case as this, and whilst we would, and invariably, have strenuously advocated that the inmates of an hospital for the insane should receive the benefit of ministerial comfort, *individually*, in every way they wished and were capable of; so, also, we would equally resist the forced intrusion of official chaplains of several denominations to hold *collective* services in so peculiarly-circumstanced an institution, contrary to the opinion of the local authorities, who alone should be the judges of the prudence, necessity, and advisability of so questionable a good, even in the most apparently favourable circumstances. Nothing, therefore, could have been fairer or more reasonable than the above prayer of the Governors of the Belfast District Hospital for the Insane, and the granting of which could not, with the least show of justice or reason, have been denied by the House of Commons. The

Governors, in this ably drawn-up petition of theirs, call attention also to certain imputations cast upon them, by implication at least, in the conduct of their institution, by the late Royal Commission of Inquiry into the state of the Irish Asylums, in reference to the consumption of food, in which they have clearly demonstrated that that Commission published, in their Report, returns altogether at variance with those supplied to them by the Governors, and on which were founded those gross, but entirely foundationless imputations, thus placing that defunct and most unhappily constituted Commission in a very awkward position before the country at large, and their invidious and one-sided Report, a Blue Book of no weight or reliance as to accuracy of the commonest kind.

18. Dr. Thurnam, in his usually interesting and sensible Report of the Wilts County Hospital for the Pauper Insane, refers to a newly erected building, nearly ready, for the accommodation of 35 additional female inmates, the cost being but £1300, or at the very moderate rate of £37 per head. He refers to an epidemic which had been amongst the patients, namely, "boils and furuncular inflammation" The deaths for the year were 34 (18 males and 16 females), out of an average daily number of 332·5, being upwards of 10 per cent. The causes of death were chiefly those of diseases of the brain and of the lungs, so many as nine coming under the latter head. Two inquests were held during the year; the first on a male patient, aged 61, who died very suddenly of extensive disease of the heart, as proved on a necroscopic examination of the body; the second was that of an imbecile child, aged 9, from her clothes accidentally taking fire during the momentary absence of the attendant. The Committee of Visitors, on investigating this case, reported that "no blame could be attached to any one, nor was the system of having open fires impugned in consequence of the accident, which might have happened in any public or private establishment." Dr. Thurnam regrets, he states, that so many of the inmates under his charge, particularly amongst the men, cannot be interested in the amusements provided for them, which is rather an unusual state of things to find existing. The kinds of amusement practised, with the exception of "open-air tea-parties during the last summer," are not stated; but in our experience we believe that dancing and music will be more than acceptable to the great majority, and that nothing better could be "the order of the evening" for such communities. The number of "recovered" cases during the

year amounted to 49 (24 males, 25 females); of "relieved," to one only (a male). The new admissions for the year were 71 (36 males, 35 females); the readmissions to 23 (9 males, 14 females). The number left under treatment at the close of the year 1858 was 343 (14 males, 197 females). The total payment made during the year amounted to £6715 9*s.* 8*d.* The snuff and tobacco cost £43 14*s.* 11*d.*; the newspapers and periodicals but £3 15*s.* 4*d.*

19. We are not in the habit generally, in our notices of Reports of Asylums, of referring to the "sayings and doings" they may contain of the Committees of Visitors, our duty being rather with the conduct of those institutions by their responsible heads, the Physician-Superintendents; but in respect of the "Pauper Lunatic Asylum for the County and City of Worcester," so pleased have we been with the opening paragraph of the Report of its Committee for the year 1857,—one which is so much to their credit, and equally so to Dr. Sherlock, the Superintendent,—that we feel constrained here to reproduce it:—

"Your Committee have to report their continued approbation and strong commendation of the zeal and attention displayed by Dr. Sherlock in the discharge of his duties. Your Committee have for some time felt that the salary of Dr. Sherlock, £350 a year, was inadequate for the constant labour, responsibility, and confinement of his situation; and have felt bound, as an act of justice, to increase that salary by £50 a year from Michaelmas last."

This is exceedingly to the honour of both the above parties, and now to record it in these pages affords us great pleasure—a pleasure—shall we say?—enhanced from the circumstance of Dr. Sherlock being an Irishman. Lord Shaftesbury, from his long experience of what the onerous duties are of a gentleman in Dr. Sherlock's position, has stated in his examination before the Select Committee of the House of Commons, as we have already brought forward in the course of this Review, that the salaries of the Medical Superintendents of hospitals for the insane should at least be £500 or £600 a year; and now, seeing that the Committee of the Worcester Asylum have been, in a measure, approximating to that excellent nobleman's just views of a fitting standard of payment, we strongly commend the example thus so laudably given to the Committees of the "Mammoth" Asylums for the county of Middlesex at Colney Hatch and Hanwell, in the hope that the consciences of those

liberal gentlemen will be pricked by it, and that they will make "a virtue of necessity" by properly remunerating their overburdened and miserably paid Medical Superintendents.

The state of the Worcester Asylum at the close of the year 1857 (the latest Report with which we have been supplied by Dr. Sherlock) was as follows:—

	M.	F.	T.
Number of patients at close of 1856, . . .	116	135	257
Admitted during 1857, ...	74	56	130
Total under treatment, ...	190	191	381

	M.	F.	T.			
Discharged cured, . . .	18	11	29			
„ relieved, . .	2	0	2			
„ unimproved, .	3	0	3			
Died, ...	10	19	29			
	—	—	—	33	30	63
Remaining under treatment, ...				157	161	318

Of the deaths, 12 occurred from disease affecting the brain and nervous system, and several from the patients coming in in a dying state. The general health of the patients was good throughout the year, and no epidemic of any kind made its appearance. The year's expenditure amounted to £7454 14*s.* 6*d.* We are glad to perceive that tobacco in no form is consumed in this excellently well managed institution under the humane and able superintendence of Dr. Sherlock.

20. The quinquennial Statistical Report of Cases of Insanity treated in Abington Abbey Asylum, and drawn up by Dr. Thomas Prichard, is a document which appears to have been compiled with much care and attention, and will, doubtless, not be without interest to the statistician and others. The author states that he has been desirous of seeing the medical officers and proprietors of private asylums generally, publishing the results of their experience in the treatment of insanity amongst the upper and middle classes of society, but hitherto without success, which, perhaps, is to be regretted. However, though this has not been done by the author's brethren, yet any want in this respect has been in a large measure compensated for by the Commissioners in Lunacy, whose Annual Reports always afford the usual particulars of each private asylum in common with those of the public establishments. We have only space for the annexed table from the Report of the above institution:

	M.	F.	T.
Under treatment January 1, 1854, . . .	14	16	30
Admitted from Jan. 1, 1854, to Dec. 31, '58,	29	29	58
Total number treated, ...	43	45	88
Dismissed, recovered, ...	13	17	30
,, on trial, and who continued well,	2	5	7
,, improved, ...	3	5	8
,, not improved, ...	1	0	1
,, transferred to public asylums, .	2	4	6
,, transferred to private asylums, .	2	1	3
Escaped, ...	0	1	1
Died, ...	2	3	5
Total number dismissed, ...	25	36	61
Remaining, Jan. 1, 1859, ...	18	9	27
Average daily number of patients, ...			28
Average daily number of officers and servants, . .			22

According to the above, it will be observed that 42 per cent. were discharged recovered, and that 5·6 per cent. died—results which, as compared with public asylums, were very successful and satisfactory.

21. Dr. Skae's Report of the Royal Edinburgh Asylum for the year 1858 is drawn up with every mark of that eminent and experienced practitioner's usual ability and completeness. Annexed is a statement of the general results of the year:—

			M.	F.	T.
Number of Inmates at the close of 1857, .			348	291	639
Admitted during the year 1858, ...			118	117	235
Total number treated, ...			466	408	874
Discharged cured, . .	76	82	158		
,, uncured, . . .	29	38	67		
Died, ...	48	26	74		
	—	—	—	124	108	232
Remaining under treatment 31st December, 1858, ...			342	300	642

Three of the admissions came spontaneously to the Asylum, entreating to be taken under treatment, two of whom had formerly been inmates. In regard to the death casualties, 18 (11 males, 7 females) arose from phthisis, 14 (10 males, 4 females)

from general paralysis, 5 (males) from epilepsy, 4 each from dysentery (males) and maniacal exhaustion (3 males, 1 female), 3 each from apoplexy (1 male, 2 females), disease of brain (1 male, 2 females), diarrhœa (1 male, 2 females), and senile decay (males); 2 each from meningitis (1 male, 1 female), bronchitis (1 male, 1 female), morbus cordis (1 male, 1 female), and peritonitis (female); 1 each from cerebral effusion (male), exhaustion after epilepsy (female), empyema (female), pneumonia (male), endocarditis (male), cancer of peritoneum (male), Bright's disease of kidney (male), and erysipelas (male).

The causes of insanity in the admissions of the year were—previous attack, 60 (26 males, 34 females); 35, hereditary tendency (14 males, 21 females); 26, intemperance (16 males, 10 females); 7, anxiety (3 males, 4 females); 6 congenital (5 males, 1 female); and 6 disappointment in love (2 males, 4 females); 5 each, terror (1 male, 4 females); injury of head (4 males, 1 female), and change of life (females); 4 each, losses in business (males), secret vice (3 males, 1 female), and puerperal; 3 each, over-study (1 male, 2 females), and bad health (2 males, 1 female); 2 each, disappointment (males), hot climate (males), and old age (1 male, 1 female); 1 each, grief (male), remorse (female), success (male), prostitution (female), amenorrhœa, over-lactation, and cancer (male). Post-mortem examinations were made in 30 cases of the 84 deaths which occurred during the year, and many interesting facts carefully noted of the several morbid appearances which were thus manifested, a remarkable one being that of "a node-like process projected from the right temporal bone over the superior semicircular canal in a case of monomania of unseen agency." Great industrial activity would appear to be the order of the day in the Edinburgh Asylum, the amount of work of various useful kinds executed by the inmates being very considerable. Nor is there any lack of recreation and amusement, no approved means in these respects being left untried for the restoration and comfort of the patients. Neither is intellectual culture lost sight of, but is amply and judiciously provided for. This institution publishes a monthly periodical, entitled "The Morningside Mirror," which does much credit to its editor (an inmate), and his learned contributors around him. We can recommend it strongly to the notice of our readers as a very unique publication of its interesting kind. The ordinary expenditure of the year amounted to £18,825 5*s.* 9½*d.*, in which we perceive the extraordinarily extravagant sum of £13 12*s.* 2*d.* as "salary" to one of the Assistant Physicians! This munificent remuneration, however, having been already referred to in our review of

the Scotch Commissioners' Report, need not now be further shown up. Seeing no mention of tobacco in the account, we opine that Dr. Skae has banished its pernicious use from amongst his well-cared-for charge.

22. The Aberdeen Asylum, under the continued able superintendence of Dr. Jamieson, is an institution which, in common with all the other Scotch chartered asylums, is of a mixed character,—that is, for the treatment of patients both of the educated and independent, and parochial or pauper classes. The number of private patients it had under treatment during the year 1858 was 111 (49 males, 62 females), and of parochial cases 285 (117 males, 168 females), making together a gross total of 396 inmates (179 males, 217 females). The discharges in recoveries for the year amounted to 39 (13 males, 26 females), ditto, as relieved, to 27 (11 males, 16 females), ditto, unimproved, 25 (12 males, 13 females). The deaths were 15 (5 males, 10 females), leaving under treatment on the last day of December, 1858, 290 patients of both classes (138 males, 152 females). The causes of death were:—Paralysis, 4 (2 males, 2 females); exhaustion and gradual decay, 3 (2 males, 1 female); apoplexy, 2 (1 male, 1 female); ditto, complicated with disease of the heart 2 (females); one each of phthisis (female), disease of brain (female), dropsy (female), and fever (female). Ten of the admissions of the year (3 males, 7 females) were the subjects of suicidal impulse, but happily no casualty in this way occurred during the year, which is one of the matters to be wondered at, and, at the same time, speaks volumes for the great watchfulness which must be practised to prevent so deplorable a calamity. Dr. Jamieson states that an important improvement had been made in the bedding of the parochial cases by substituting hair mattresses generally in place of chaff. For clean patients this is the best possible description of bed, and the most economical in the end, that could be used; but for other classes we believe there is nothing better or more comfortable than a bed of good oat-straw. An extended and improved system of night-watching had also been established during the past year, and the experimental addition of two detached cottages for some of the more orderly class of females of the pauper class put into operation, which we had an opportunity of seeing lately, and which appeared to us an excellent means of providing increased accommodation. Another desideratum in all asylums we found in existence here,—that of an entirely separate residence for the Superintendent Physician, which ought to be the rule in all such institutions for the due

comfort and proper status of its head, and not, as at present is the case in the great majority of them, the Superintendent's scanty accommodation mixed up with that of the matron and other secondary officers,—a domestic state of things totally subversive of all authority and respect, and only too well calculated to prevent any man of the least independence of spirit and respect for himself to undertake the arduous and responsible duties of Superintendent, thus subjecting himself and his family to perpetual discomfort and hourly petty annoyances. Dr. Jamieson states that the "minimum diet" of the pauper class had been slightly improved, "partly in deference to suggestions" on that important head of treatment,—which all Medical Superintendents, as a matter of solemn duty to their charge, should impress on their respective committees of management, namely, the humanity and the real economy of a liberal and substantial scale of diet. We know the difficulties to be contended with in this respect, and how hard it is to convince men determined not to be convinced of the absolute necessity of a good standard dietary for the insane poor. Still the Superintendents should persevere, and not cease their exertions, for their patients being done the fullest justice to in a matter of such primary moment. We regret no table of dietary appears embodied in this otherwise full and complete Report of the Aberdeen Asylum,—a table which, in our opinion, should never be omitted in the annual reports of public hospitals for the insane. We have only left ourselves room to add, that the total expenses of maintenance for the year were £6330 0*s.* 3*d.*, leaving an income above expenditure of £465 5*s.* 11*d.* We do not observe, under the several heads of expenses incurred, any for tobacco, so that we presume and hope Dr. Jamieson does not sanction its use in any form in his very creditably-managed institution.

23. For a number of years past, in these Annual Reviews[a], when noticing the Reports of "James Murray's Royal Asylum for Lunatics, near Perth," we have directed special attention to the extraordinary circumstance of no financial statement being afforded in them to the public by its Board of Directors. The one now before us labours under the same most unaccountable omission, and we are, therefore, again compelled, however reluctantly, to animadvert, in the strongest manner, upon this dereliction of a bounden duty, and candidly to state that we consider the holding back of any official statement of accounts

[a] See the Reviews on Insanity in the November issues of this Journal for 1854, 1855, 1856, 1857, and 1858.—*Rev.*

has a very suspicious appearance, and must be prejudicial to the character of that establishment, notwithstanding the Directors inform us, in their last-issued Report, that "the institution has continued to enjoy the confidence of the public." It is the only chartered asylum, with the exception of the Crichton Institution, that we are aware of, of which the fullest information is not annually rendered of both charge and discharge; and how it happens that this invariable exception to so salutary a custom exists in the Perth and Crichton Asylums, we are entirely at a loss to imagine. Is there no authority in Scotland to appeal to on this head, and have this serious fiscal want remedied? It occurs to us, that the "General Board of Commissioners in Lunacy for Scotland" must have full power to call for a statement of expenditure of income from chartered asylums like these; and we, accordingly, respectfully call the attention of the Commissioners to the point at issue, in the hope that succeeding Reports will not issue from the Perth and Crichton Asylums without a full and clear debtor and creditor account being published in them by their Boards of Directors.

Having discharged our duty in the above matter, we turn to the voluminous and elaborate Report of the Perth Asylum, as written by its zealous Superintendent Physician, Dr. Lauder Lindsay. The general results of the year were as follows:—

	M.	F.	T.
Patients remaining under treatment June, 1858,	84	91	175
Patients admitted during the year, viz., June, 1858, to June, 1859,	37	42	79
Total under treatment during the year,	121	133	254

	M.	F.	T.			
Discharged, recovered,	13	21	34			
Removed, improved,	2	1	3			
,, unimproved,	1	4	5			
Died,	7	4	11			
	—	—	—	23	30	53
Remaining under treatment, June, 1859,				98	103	201

Social Condition of those admitted during the year.

	M.	F.	T.
Married,	12	12	24
Single,	23	22	45
Widows and Widowers,	2	8	10
	37	42	79

Causes of Death.

Apoplexy, simple, ...	0	1	1
„ in course of general paralysis, .	1	0	1
Broncho-pneumonia, acute, double, . . .	1	0	1
„ with acute pleurisy, .	1	0	1
Convulsions in course of general paralysis, .	0	1	1
Dysentery, ...	1	0	1
Pneumonia, double, typhoid, ...	1	0	1
Senile exhaustion, ...	2	2	4
	7	4	11

With reference to the term "General Paralysis of the Insane," Dr. Lindsay objects to it as "a mischievous and unscientific one;" and, further, that "he has for several years entertained views on its nature and pathology opposed to those currently received both by alienistes and medical men generally." Now, Dr. Lindsay will pardon us for remarking, that he is still young in harness in the specialty upon which he has entered, we admit, with such commendable zeal, and has brought so much talent to bear, and, being so, it strikes us as rather premature, and not quite in good taste, for him thus to put himself so decidedly in opposition to the views of many eminent men holding a contrary opinion to himself on this subject; we say this in the most friendly spirit, and without endorsing either side of the question stated to be in dispute. We would also, we are free to confess, be much better pleased were the Report before us a little less high-sounding and diffuse than it is. We fear there is too much of a showing-off of the Perth Institution, which would be well to modify a little for the future, and tell better with the profession. Dr. Lindsay, we perceive, states, in regard to water-closets in hospitals for the insane, that no system of self-acting flushing, however ingenious, is permanently satisfactory; and that no plan for cleansing "is so efficient and inexpensive, ultimately, as frequent periodical flushing by attendants." Now, in this most important point of domestic detail, comfort, and common cleanliness, we must altogether differ from Dr. Lindsay. We have had opportunities of seeing both systems in use, and we can truly affirm that a more disgusting or beastly one than that of "flushing by attendants" we never experienced; a Scotch system, we believe, which was introduced into our hospitals for the insane in Ireland by the Board of Works, but had ultimately to be banished as abominable, and the self-acting system substituted, which has answered admirably.

24. In our Eighth Annual Review we had on our list of notices the Seventeenth Report of the Crichton Asylum at Dumfries, which, we had supposed, would have been the last one issued with the name of Dr. Browne appended as its chief officer. We find, however, that we were premature in this, inasmuch as the Eighteenth of that institution, that for the year ending November, 1857, is now before us, and signed by that gentleman, as its Resident Physician, but since elevated to the office of one of the Commissioners in Lunacy in Scotland, an elevation which, we need not here again repeat, his deserts so eminently entitled him to, and which, we trust, he will be long spared to enjoy, both on his own account, individually, and for the advantage of the Commission which has obtained the benefit of his matured and generally acknowledged experience in all that relates to the welfare of the insane, as well in theory as in practice. Dr. Browne, referring to his intended secession from the government of the Crichton Asylum, thus feelingly and eloquently expresses himself:—

"Where such ties have long existed,—where there have been boundless trust upon the one side and sincere pity upon the other, it would be unnatural were the connexion broken without deep and lasting regret,—without an earnest desire that the separation should neither be final nor total, and that there may be granted by the God of light and reason greater capacity for amelioration, more gifted instruments, to carry out the designs of Providence."

And, speaking of his successor, Dr. Gilchrist, formerly his Medical Assistant, he says:—

"He brings to the discharge of his duties—so onerous as to require more than human aid—a highly cultivated mind, varied acquirements, inflexible probity and faithfulness, an ardent attachment to the department of medicine in which he is engaged, and, that highest qualification, a love and sympathy for those who are to be the objects of his personal as well as of his professional solicitude, whose destinies, whose immortal souls, may be said to be in his keeping—

"For you must love him, ere to you
He will seem worthy of your love."

With such a testimonial as the above, and from so highly qualified and distinguished a source as its writer, Dr. Gilchrist may, indeed, feel proud, on the one hand, and the authorities of the Crichton Institution rejoice on the other, that Dr. Browne's mantle has fallen upon so worthy a successor.

Dr. Browne's Eighteenth and final Report, we need scarcely say, is fully equal to those which preceded it for valuable and

interesting information. We are now able to afford room merely to state that the patients under treatment in 1857 amounted to 384, of whom were discharged, recovered, 40; ditto, improved, 15; died, 24 = 79, leaving under treatment, at the end of 1857, 305 inmates. The causes of death were, phthisis, 6 (2 males, and 4 females); paralysis and pneumonia, each, 2 (2 males, and 2 females); epilepsy, 1 (male); general paralysis, 1 (male); gastric fever, 1 (male); erysipelas, 1 (female); diseased heart, 1 (female); marasmus, 1 (male); enteritis, 1 (male); disease of bones of skull, 1 (female); alcoholismus chronicus, 1 (male); apoplexy, 1 (male); ascites, 1 (male); bronchitis, 1 (male); bronchopneumonia, 1 (male); cynanche anginosa, 1 (female). Before concluding with this, the Eighteenth Report of the Crichton Institution, we must not omit to remark that, in common with the Perth Asylum, it publishes no report of expenditure, which we consider a grave omission on the part of its Directors, and that we trust, for the future, this necessary information will not be withheld from the public.

25. Dr. Kirkbride's Report of the Pennsylvania Hospital for the Insane for the year 1858 informs us, that at the end of the year 1857 there remained in hospital 230 patients; since which 131 had been admitted, and 131 discharged or died, leaving 230 under treatment at the close, as there were at the commencement of the year. The total number of inmates in the hospital during the year was 361, and the average number during the whole year was 238. Of the patients discharged during the year 1858, were—cured, 63; much improved, 12; improved, 29; stationary, 9; died, 18: total, 131. As to the causes of death—2 were from acute mania, 3 from gradual exhaustion, 3 from softening of the brain, 2 from phthisis, 2 from epilepsy, 2 from purpura; 1 each from convulsions, dysentery, diarrhœa, old age, and scirrhus. Dr. Kirkbride complains of the premature removal of six patients, on the part of their friends, during the year; than which nothing could tell more against the chances of their ultimate recovery. This is an evil experienced on this side of the Atlantic as well as in America. In some excellent observations on nomenclature as applied to insanity, Dr. Kirkbride condemns strongly the use of the term "cells," "lunatic asylums," and such like prison and most objectionable as well as ignorant terms; and very properly observes that the word "asylum"—as upheld in our own country, and even by the Association of Medical Officers of Hospitals for the Insane, at which we have been always surprised, and always considered very inconisstent—literally meaning a place

of refuge or security, is not provided for the treatment of fever, or rheumatism, or other diseases, and that, accordingly, the institutions for the treatment of insanity should not thus be so improperly and unscientifically designated. Dr. Kirkbride has much more on this head, which we would gladly copy into these pages, did space permit; and with this absolutely necessary brief notice of his excellent and very practical Report, we must now close this already too extended Review.

The Diseases of the Stomach; with an Introduction on its Anatomy, and Physiology. Being Lectures delivered at St. Thomas' Hospital by William Brinton, M.D., F.R.C.P., Lecturer on Physiology and on Forensic Medicine in St. Thomas' Hospital; Physician to the Royal Free Hospital. London: J. Churchill. Post 8vo, pp. 400.

The death of a near relative, fifteen years ago, painfully impressed Dr. Brinton with the obscurity and uncertainty which peculiarly attach to the maladies of the abdominal viscera. From that time, he tells us, he has given to those maladies whatever attention could be justifiably devoted to a special group of diseases by a student and practitioner of physic in general. That the labour thus expended by Dr. Brinton has not been fruitless has, long before the appearance of this volume, been fully evidenced, not only by the admirable article on the stomach and intestines, contributed by Dr. Brinton to the Cyclopædia of Anatomy and Physiology, but also by the able monograph on "Ulcer of the Stomach," reviewed at length in the twenty-third volume of our present series. And, in addition to the work we are about to introduce to our readers, we laid before them, in our last Number, a communication detailing a series of experiments, which will be found to elucidate in no small degree one of the most obscure and difficult problems in the physiology of digestion.

The present volume contains five lectures delivered to an audience consisting of the more advanced students of St. Thomas' Hospital, who, having attended the clinical and systematic lectures on medicine of his colleagues in the hospital, had already, the author believed, an elementary acquaintance with the subject. The lectures thus delivered have received some additions and corrections, we are told in the preface, in passing through the press, and have been increased in number by one (Lecture V.), which was read as a paper before the Physical Society of St. Thomas' Hospital. And, for the convenience of

the reader, a summary of the anatomy and physiology of the stomach has been prefixed.

Coming thus under our notice, we intend to review this work in a two-fold aspect:—First, as a system of lectures of a peculiar description, and in connexion therewith we shall venture to lay before our readers some thoughts that have long been forcing themselves on us, as to the value and appropriateness of lectures as a means of educating students in medicine; and, secondly, we shall have to notice the lectures themselves, as essays on the subjects of which they treat, in which respect they cannot fail to add to the high reputation already attained by the author.

It is obvious, from recent events, that those who have the control of the education of medical students are beginning to find that the system of enforcing attendances on lectures has been carried too far. Some of the licensing bodies have accordingly reduced the number of lectures that they require candidates for their diplomas to attend. We believe this to be a move in the right direction; we only fear that the many opposing influences such a reform must encounter will prevent its being carried to the extent that the altered circumstances of the present age seem to us to require, and we are anxious to direct the attention of our readers to the subject, that an enlightened opinion may assist and regulate the movement.

To illustrate more fully our meaning, we will go somewhat into detail, and we do this the more readily, as it will the better enable us to explain what we conceive to be the characteristic peculiarity of these lectures, to which we have already alluded.

Teaching may be of two kinds; following Dr. Whewell, who has well discussed this subject in his "Principles of English University Education," we may call these "speculative" and "practical." Each of these methods has its peculiar advantage: in the speculative the lecturer expounds to his audience the doctrines or results of some branch of knowledge, the speculations of antecedent philosophers or his own, while the office of the audience is but to attend to him,—to listen, to receive, think on, and treasure up what the speaker delivers, —without being called on to take any active part, without being required to produce, to test, or to apply the knowledge thus acquired. In the other mode of teaching, the learner has not merely to listen, but to do something himself,—not merely to receive, but to produce his knowledge,—in fact, in this system the pupil is required to study and prepare a certain previously assigned subject, and to produce his knowledge, that any errors or misapprehensions he may have fallen into may

be corrected, and that his application and progress may be tested.

It is evident that, for the acquisition of elementary knowledge, the practical system presents great and peculiar advantages over the speculative; while, on the other hand, the speculative is best fitted for teaching the advanced student to reason, and duly weigh and estimate the value and relationship of the facts he has acquired by the other system. Now an objection to the system of teaching by lectures is, that it partakes too exclusively of the nature of the speculative teaching and not sufficiently of the practical. To this, we believe, it is mainly to be attributed that students do not attend to the courses of lectures that are prescribed for them, and that they shun the lecture theatre to attend the class-room of the private teacher,—the result being that, while both modes of teaching have their peculiar advantages, neither is fully developed. For this result our licensing bodies are chiefly to blame, for if, instead of enforcing attendance on certain courses of lectures, they would make their examinations more searching, and test the acquirements of their pupils at short and frequent intervals, allowing them to obtain their information where and how they pleased, each mode of teaching would develop its own merits; and, instead of being opposed to one another, as is too much the case at present, would co-operate in obtaining for the student a greatly improved education.

No doubt, under such a free system, much of the lecturing of the present day would have to be given up; but this, we cannot conceal from ourselves, would be but a small loss, for we feel convinced that, however well suited the lecture-room may have been formerly for conveying instruction, it has, like many other time-honoured institutions, been superseded by the printing press. Now, when books are so cheap, and diagrams and illustrations are so well executed, lecturing is little wanted, the permanency of a printed book, and the facilities it presents for re-perusal and reference, giving it advantages that the lecturer cannot compete with.

At the same time, for many of the higher branches of knowledge, and for subjects requiring demonstrations, the efficient lecturer must be always sure of an audience. There is an influence in the living voice, and an advantage in coming face to face with the living teacher, that places the lecturer far above the competition of books; but teaching of this kind must be of a high description,—the audience must be led to examine, to reflect; the lecturer must show that he is able to lead them in this path; he must, moreover, have something to communicate,

and such lecturing will command an audience. It was such lecturing that drew the crowded audiences which attended the course delivered a few months ago, in this city, by Dr. Brown-Séquard, where the most senior and busy practitioners were seen vying with the student in the attention they bestowed.

Yet even in such a course as that delivered by Brown-Séquard, a radical defect in lecturing, as a system of education, manifested itself. Notwithstanding that the audience were, for the most part, men of trained minds, who were familiar with the bearings of the subjects discussed, and that the chief theories propounded were based on experiments that were exhibited,—yet there was manifested by the conversation of the audience, after the lecture, a degree of uncertainty as to the facts actually demonstrated, and of obscurity as to the theories propounded, that showed the difficulty, in listening to a lecturer, of hearing all that is said, and of duly estimating and retaining all that is heard, and the necessity that even trained minds are under of turning back and retracing their steps, in proportion as the subject developes itself, opportunity for which can only be afforded by a book.

Let us not be misapprehended. We do not mean to decry lectures as useless, but we do assert that, for many purposes, lecturing is a bad system of teaching. For the acquisition of elementary facts, where the student has chiefly to exercise his memory, and to keep his attention fixed, we believe lectures to be about the worst system that could be devised; but when the facts have been acquired, and when it is wished to teach the student to weigh them, to reason on them, and to estimate their value, we believe there is no system so efficient as good lecturing, especially where the lecturer makes use of a text-book, and follows it in his remarks.

Lecturing of this description has been happily compared by a recent writer to the charge which a judge delivers to a jury, after they have heard the evidence in the case which they are engaged in trying:—"The jury already know the details of the case; they have heard the evidence bearing upon it, and they have formed certain conclusions in regard to it. The judge addresses them accordingly: his object is to assist them in arriving at a sound conclusion, and finding a true verdict; and, with a view to this, he merely recapitulates the leading particulars of the case, dwelling only on those which it is specially important for them to bear in mind; and he then proceeds to sift and weigh the evidence adduced, and likewise to apply the facts as they truly appear, together with the principles or the express enactments of the law, to the questions

which the jury have to decide; but he discards a minute detail of the whole case, as being what the jury are already familiar with."

We now leave the consideration of this subject, hoping that its importance at the present conjuncture of medical affairs will sufficiently account for our having dwelt so long on it, remarking that the present lectures of Dr. Brinton are very much of the exegetic character above described, and that this is the peculiar characteristic, of which we spoke at the commencement of our remarks on this subject: they were delivered to an audience who had already acquired the elementary facts; but, however attentive the audience may have been, and however able to follow the reasoning of the lecturer, we are sure they will all be glad to see the lectures in print, not only that they may be able to refer to them from time to time, but because Dr. Brinton has evidently added so much to them as to make them very considerable essays on the subjects treated of, rather than mere lectures that might be delivered in an hour. We must, however, observe that the very fact of this extension being necessary, proves that the information conveyed in lectures, even when delivered like these, under most favourable circumstances, is necessarily incomplete, and more or less superficial in its character. Dr. Brown-Séquard seems to have felt the same want of extension, and in publishing the lectures he delivered before the College of Surgeons, expanded the six into twelve, "covering just the same ground."

Having thus indicated some of the thoughts suggested to us by the form in which these essays have been published, we may now proceed to show the subjects that have been treated of, and some of the conclusions that have been arrived at. As already mentioned, the volume opens with a summary of the author's lectures on the anatomy and physiology of the stomach. To those who have not time or opportunity to read his more extended account in the Cyclopædia, this will afford a valuable resumè of all the recent discoveries and of the doctrines of the present day; but we see nothing sufficiently novel in it to require that we should dwell on it here.

Lecture I. is devoted to the consideration of the symptoms of gastric disease generally, including pain, eructation, regurgitation, vomiting, hemorrhage, and flatulence. The nature and varieties of these are fully discussed; the mode of their production is inquired into; and the inferences to be deduced from them are indicated. In this way a series of principles is laid down, the application of which enables the lecturer to abbreviate considerably his remarks on the diseases of which he

afterwards treats, and the lecture is well calculated to lead to the philosophical consideration and scientific treatment of stomach diseases. The remarks on vomiting may be taken as a fair sample of this. Having shown the mechanism by which vomiting is produced, Dr. Brinton proceeds:—

"As regards the *cause* of vomiting, it is obvious that so complex and co-ordinate an act of various organs can only be accomplished through the intervention of that cerebro-spinal centre from which the nerves of these organs radiate. And hence we may distinguish these causes into two classes;—one in which the irritation provoking the act originates at the nervous centre; and one in which, arising at the periphery, it is transmitted thence to the centre to be reflected into various organs which effect the expulsive process. The first class is illustrated by the vomiting of cerebral injury or disease, as well as by the vomiting sometimes resulting from mental emotion: the second, not only by that ordinary form of vomiting which is excited by a direct irritation of the stomach itself, but by the numerous cases in which it follows an irritation of kindred or even dissimilar textures—such as irritation of the fauces, intestines, or peritoneum; disgusting sights, sounds, or smells; prolonged immersion in cold water; and even wounds of the extremities.

"But even in the second of these classes the act of vomiting can only be regarded as 'reflex' with two important qualifications. Firstly, there are good grounds for believing that a large number of emetic substances are not only quite as active when injected directly into the blood as when merely introduced into the stomach, but that, as shown by Magendie's celebrated experiment (in which tartar-emetic injected into the blood of a dog caused copious vomiting from a bladder which had been substituted for the stomach), whatever their local action on the stomach in the latter of these two cases, it is to a direct influence on the nervous centre that the act of vomiting must chiefly be referred. And, secondly, though, in those numerous cases where the exciting cause is a mechanical irritation, the phenomena of vomiting sufficiently indicate the medulla oblongata to be that segment of the cerebro-spinal centre in which reflection towards the periphery occurs, still the ensuing movement is by no means a simple reflex act. On the contrary, it is effected by the concurrent action of so many organs, and with such characteristic and definite changes in their ordinary times, modes, and degrees of activity—the whole process is so complex, and so truly co-ordinate—that, far from limiting our attention to the reflected course which its exciting cause sometimes takes, we ought rather to regard this as quite a subordinate feature, and the act of vomiting as an involuntary or physical nervous action of the highest order.

"Such a view of the nature of vomiting receives a remarkable illustration from an experiment of mine on the action of tartar-emetic, which conclusively shows what we may almost specify as

an object, a purpose, or at any rate a function, of this complex process. On injecting a solution of tartar-emetic into the superficial femoral vein of a dog, the mineral was found ten minutes after in the fluid contents of the stomach, and in a state of concentration much exceeding that in which it must have been mingled with the mass of the blood. In this instance, too, the poison had produced extreme prostration, but no vomiting. Taken in conjunction with Magendie's experiment already alluded to, it proves that the poison may first be secreted by the stomach into its cavity, and then removed from this cavity, by two processes which are essentially independent of each other, and of any local effect of the secreted drug, however aided by it. A similar process of secretion probably obtains in the case of the salts of other metals, as well as in that of various organic poisons:—the concurrence of such a process with the act of vomiting thus rendering the latter an element of the *vis medicatrix Naturæ*—an act by which the organism throws out a deadly poison like antimony, perhaps even a dangerous disease like fever."

This latter fact, that poisons introduced into the blood and causing vomiting by their influence on the nervous centres, are at the same time eliminated by the stomach, and thus placed so that they may be readily removed from the system, is one of great importance, and shows that we might with advantage have more frequent recourse to the exhibition of emetics, than has of late been usual, in the treatment of many diseases.

There are few questions in practice of more importance, or attended with greater difficulty in some cases, than those that arise as to the cause of vomiting. This is well set forth in the following passage, which enforces the necessity of our looking to the aggregate of the symptoms in forming our diagnosis as to the cause of vomiting in any given case. We would add to what our author says as to the difficulties of the diagnosis, that even the expulsion of food that had been eaten some days previously is not to be relied on as deciding the gastric origin of the vomiting:—

"In alluding to vomiting as a symptom of gastric disturbance, we must begin by conceding, that cases sometimes occur, in which the vital powers are rapidly exhausted by violent and frequent vomiting, that defies all our efforts to relieve or arrest it; and in which our complete uncertainty as to the cause of this vomiting during the life of the patient is little affected by a necropsy, showing no apparent lesion in the stomach, or even (it is said) in any organ of the body. We cannot therefore augur the gastric origin of vomiting from its mere severity and frequency: nay, more, we must not expect that single peculiarity of this symptom—such as its excitement by food, its assocation with epigastric pain, or even its expelling blood—will often suffice to decide its reference to the stomach."

Hemorrhage is the next symptom considered: under this head we expected to have found some account of the "green vomit," which must now be regarded as modified blood; but, though the other forms of hemorrhage are fully discussed, there is no allusion to it.

Flatulence comes next to be considered, and is stated to have its origin in three modes:—First, in the swallowing of air, either voluntary, as in the act of deglutition or eructation, or in mechanical adhesions to the bolus of food, or to the saliva. Second, in the decomposition of the food in the alimentary canal, which is believed to be its principal origin. Third, in the decomposition or putrefaction under certain circumstances of the fluids derived from the organism itself.

The evolution of gases in the digestive tube by a process of secretion from the vessels of its walls, as held to take place by many authors, is altogether denied by Dr. Brinton. His reasons for this, however, do not appear to us to be at all conclusive, nor is his objection to the experiment of Magendie sufficient to invalidate the deductions generally drawn from it. Magendie, as is well known, included a portion of empty intestine, in a healthy dog, between ligatures, which was soon followed by its distention with gas. To this it is objected, that the intestine may not have been empty; and as one grain of starch or sugar would yield, by decomposition, sufficient gas to occupy about eight cubic inches, no such experiment can exclude the presence of sufficient food to account for the gases of the resulting distention. At all events there can be no doubt that, in the *majority of cases*, flatulence arises from the ingestion either, first, of a quantity of food which is too large, absolutely or relatively, to the digestive juices of the individual; or, second, of a quality of food which, either from nascent or existing putrefaction, or from a peculiar proneness to it, or even from a peculiar composition, favours the generation of gases. And it must be admitted that most cases of apparent secretion of gas may be fairly explained by the following principles:—

"The pathological import of flatulence is, however, by no means summed up in these general statements. And the diseases of the stomach and bowels offer us certain phenomena, by which we are in some sense bound to test the conclusions we have come to against the alleged secretion of gases from the gastric or intestinal blood. Not only are there various abnormal states of the digestive canal, in which flatulence occurs under circumstances at first sight suggestive of no very close relation to the above laws; but we occasionally meet with cases, in which this symptom appears and disappears

with such startling rapidity, and seems so completely independent of every other abnormal condition, that it is no wonder if a superficial observer or lax reasoner should think the secretion of gases an absolutely unavoidable explanation. A person, for example, is prevailed upon to break a fast of many hours with a morsel of some kind of food which he habitually digests with difficulty. He is instantly seized with acute pain in the epigastrium; but, before his alarm and agony can obtain any medical relief, is restored to complete health by a copious eructation of flatus. The advocates of this secretory doctrine would perhaps, think such a case susceptible of only one explanation: that the empty stomach had been the seat of a sudden and copious evolution of gas, producing distention and pain, which ended by the expulsion of the *flatus*.

"But there is no necessity for accepting any such explanation. On the contrary, the physiology of the digestive canal not only justifies, but demands, a very different interpretation of the facts.

"To begin at the beginning, let me remind you that the bulk of an aeriform fluid is dictated by the pressure to which it is exposed: so that, for example, to double the pressure of a cubic inch of gas would diminish its bulk to one half; or, conversely, to halve its pressure would convert one cubic inch of bulk into two.

"Now within certain limits (dictated chiefly by the general pressure of the atmosphere), the intestinal gases are exposed to the influence of two varieties of pressure; which, while they seem chiefly or exclusively to affect the bulk occupied by a given amount of *flatus*, often probably concur with a slower alteration in the quantity developed in the digestive canal. The pressure of the abdominal muscles on the intestinal canal, and that of the muscular parietes of this tube on its contents, thus to a great extent regulate the bulk of the aeriform fluids by which it is so largely occupied. It is chiefly by diminished pressure that the most characteristic effects are produced. And their pathological significance depends mainly on the mechanism of this diminution; namely, a muscular relaxation in answer to a stimulus. Thus, when we irritate the peritoneal coat of the intestine in a living animal, we excite a local relaxation (a kind of bulla, or bulging) of the wall of the canal:—a swelling formed by the relaxed coats of the bowel, and occupied by its gaseous contents. In the experiment of Magendie alluded to, it is probably the distention observed was partly due to a more general effect of this kind, brought about by the irritation of the ligature. And it would be easy to adduce a variety of morbid conditions of the alimentary canal to illustrate the propositions:—that relaxation of this kind is connected rather with irritation of the peritoneal, than of the mucous coat; of the trunks, rather than the periphery of nerves: and that (*cæteris paribus*) its degree and extent vary with that of the irritation; so that (as exemplified by severe peritonitis), in its more characteristic forms, it engages, not only the muscular wall of the intestine, but those muscles of the belly which we have seen to be really co-ordinate with it, and thus pro-

duces that general gaseous distention of the flaccid (and, so to speak, paralyzed) abdomen, which constitutes some forms of tympanitis.

"It is scarcely necessary to insist upon the essential distinctions between the more characteristic forms of tympanites and flatulence; between a merely increased bulk and a really increased amount of *flatus;* between that which is not, and that which is, expelled by the contractile force of these two muscular tissues that enclose the contents of the bowel. But there can be little doubt that, in many cases regarded as mere flatulence, it is impossible to exclude that reflex process of relaxation in answer to stimulus, of which the tympanites of peritoneal inflammation affords the best illustration. Especially is this the case with those temporary and local accumulations of *flatus* of which we are considering an example. Here, for instance, instead of a sudden secretion of gas, causing pain and distention of the stomach, and ending in an expulsive act, I should offer a very different explanation:—that the irritation of the morsel of unwholesome food caused a relaxation of the gastric coats; that the pylorus (generally patulous to the non-alimentary contents of the duodenum, and specially so in virtue of this relaxation) allowed the rarefied gases of the stomach to be increased by an addition from the duodenum; and that the resulting eructation expelled a fraction of the total gaseous mass. That, under these circumstances, expulsive contraction should follow relaxation, is not surprising; indeed, you will recollect that, in the normal rhythmic peristalsis of the muscular wall of this canal, these two states have exactly the same sequence, both in time and place.

"You will observe, however, that such a view, which rests, not only on its own inherent probability, but also on that disproof of the secretion of gas by the digestive tube which we have established, suggests considerable doubt as to how far the pain is caused by the flatulence. And a careful analysis of the incidents of such a case will quite confirm this doubt. Without going so far as to assert that distention does not often materially add to the pain of a flatulent attack, we are at least fully entitled to conclude, that (far from pain being always preceded and caused by flatulence) in this chain of abnormal phenomena, pain, relaxation, and contraction or expulsion, are generally three successive links; and that not only may the first occur, without always or necessarily calling forth the second and third, but that it is essentially the exponent of an irritation, itself the cause of all three."

Lecture II. is on the circumstances connected with the examination of the stomach after death, and on gastritis. It is well worthy of perusal, as examining, in a philosophical manner, the circumstances which so frequently lead to error in our examinations of the stomach. Acute gastritis, as an idiopathic affection, Dr. Brinton believes, never occurs,—a conclusion in which we cannot fully coincide in the face of the cases recorded by Andral, Stokes, and others. The sub-acute varieties of the

inflammatory process are believed to affect the stomach very frequently, and are distinguished into two forms: one, in which the malady is caused by a constitutional state, the effects of which are shown in a variety of other organs, as well as in the stomach, is well illustrated by the gastric inflammation which attends many exanthemata. The other is due to causes connected chiefly or exclusively with the stomach itself, which is submitted to an irritative process, somewhat analogous to that typified by the gastritis of irritant poisoning. This form is most frequently seen in that species of delirium tremens occurring after a single long debauch, and generally associated with a thickly coated tongue, and with an amount of vomiting, pain, and tenderness in the epigastrium, indicative of gastric inflammation.

The observations of Dr. Beaumont are regarded by Dr. Brinton as leading to the inference that much of the dyspepsia met with in practice depends on some form of chronic gastritis, a conclusion confirmed, in many cases, by a consideration of the causes that produce the disease; but he cautions us, that we are scarcely entitled to any definite or general conclusion of this kind, especially as it will be found that some varieties of the malady claim a different origin.

Lecture III. is on *Ulcer of the Stomach;* it occupies exactly one quarter of the entire work, and is very nearly a transcript of Dr. Brinton's former volume on the same subject, which we reviewed at length at the time of its publication. To call it a lecture is absurd, and we cannot but regret, for the sake of Dr. Brinton's reputation, that he should have added it to the present volume. We have compared the two essays pretty closely, and, except a changed arrangement of the several sections, and some verbal alterations, we find no real difference; the new arrangement is simpler, and, so far, better than the old; but we can well imagine that the purchasers of both volumes will feel some *soreness* when they find fully a quarter of the new purchase but a reprint of the book they already possess.

Lecture IV. is on *Cancer of the Stomach*, and is one of the best essays on the subject we have, we believe, ever read. It treats the subject in the same way as that on ulcer,—that is, instead of dividing the disease into stages, and giving an elementary, clinical, or systematic history of the disease, a typical case is sketched, and then the several symptoms are taken up *seriatim*, and fully examined in all their bearings. Any attempt to analyze this essay in the space at present at our disposal would be futile; we can only recommend our readers to peruse the work for themselves.

The remaining lectures are, one on cirrhosis and some other rare affections of the stomach, and one on that fruitful subject, dyspepsia.

In our notice of Dr. Brinton's monograph of Ulcer of the Stomach, we gave, as a reason for the length to which our remarks had run, that it lessened, by one affection at least, "the wide field for speculation, conjecture, and empiricism," said by Dr. Abercrombie to be presented by diseases of the stomach; and we have now to tender him our thanks for having performed the same good office for the others, and to offer the same apology to our readers.

A Treatise on Human Physiology; designed for the use of Students and Practitioners of Medicine. By JOHN C. DALTON, Jun., M. D., Professor of Physiology and Microscopic Anatomy in the College of Physicians and Surgeons, New York, &c., &c. Philadelphia: Blanchard and Lea, 1859. Large 8vo, pp. 608.

THE unexampled rapidity made by Physiology within the last century is truly astonishing, and many of those phenomena that to the first labourers in this fascinating science appeared to be clothed with an obscurity absolutely impossible to illumine by any explanation that could be offered, at all in accordance with reason and truth, are now gradually acquiring such a definite outline of shape and consistence as to render what was once unintelligible and completely obscure capable of being comprehended and appreciated by even the most ordinary capacity. It would appear as if the love of the marvellous must always act as the most powerful incentive on the eager curiosity of mankind, and those various and unexpected revelations which must be continually springing up while engaged at a favourite pursuit would seem to be a quite sufficient compensation for any labour already expended, and prove a continued stimulus to urge to still further exertions.

The earlier votaries in this expansive field of inquiry had necessarily manifold serious difficulties to encounter and overcome while endeavouring to elucidate a subject so novel in its character, and endued with ramifications so extensive, and hitherto undefined. The very prejudices of mankind were arrayed against them with an uncompromising zeal, and every attempt to pry into the secrets of nature in order to acquire a fuller insight into the machinery of her operations was regarded as a species of impiety, and as such treated with the most undis-

guised abhorrence; for the spirit of the age was totally opposed to such abstruse speculation, owing to the low ebb of literature that prevailed at that period; and more than one instance is unhappily on record, showing too distinctly that not only was passive resistance alone offered to investigations of this description, but the hand of power was recklessly employed to crush without remorse the instinctive yearnings of the intellect that dared to transgress those limits which ignorance and superstitious awe had assigned as the boundary, to which it was presumed that every legitimate aspiration should be most strictly confined.

The experience, however, of all times has most unequivocally shown that it is absolutely impossible to check or control that spirit of inquiry which would appear to be an innate property of man; a principle implanted in his constitution for the wisest of all purposes at the moment of his birth, and increasing in its intensity with advancing years; accordingly, it will be found that human prohibitions have been always made, only to be evaded or openly set at defiance; in fact, they simply become the incentive to additional exertions to the mind panting for further information on the forbidden topic, which it considers to be a subject fairly open to legitimate investigation. And what could more emphatically lay claim to such a consideration than the moving image that was so continually encountering his view, endowed with functions so wonderful and various in their nature, but all subservient to the one great principle, life; constituting, in fact, a mechanism that owes its existence to causes apparently so inexplicable, that was fed, nourished, and grew under a combination of circumstances still but imperfectly understood, and that ultimately attained its full measure of maturity and vigour only again to lapse gradually into decay, and finally to succumb to that inevitable fate which must be so surely the destiny of every living thing.

It would constitute, perhaps, a subject of no common interest could we view, as if through some retrospective medium, the continuous struggles that must have marked the career of the man of those primæval times, occupied in the noble attempt to unravel the complicated meshes of this mysterious subject. What must have been the condition of his ardent mind, incessantly incited to fresh activity by a clearer knowledge of the various objects which momentarily started up before his excited imagination in the course of his inquiries, not one of which was as yet clearly understood, or its relations to the animal economy even remotely conjectured; with no single starting-point definitely laid down which might serve as a clue to guide him towards the path he was toiling to discover! All must have

been darkness, impenetrable and profound; the living chaos presenting a series of facts only, plain and apparent enough to the senses, but the causes which governed, directed, and controlled them in their several agencies shrouded in complete obscurity, the more tantalizing because it was obvious, from the effect produced, there must have been some general laws in operation to which all were subservient, and rendered a willing obedience. But with the general dearth of information that prevailed in those earlier periods to which we allude, to attempt to obtain even a glimpse of those principles by which the functions of the human economy were regulated must have proved a labour of no ordinary difficulty. Chemistry, particularly organic, had no existence, while the microscope, which has accomplished so much for the physiologist of the present day, was completely unknown. Compelled to deal in assumptions, generally of a very vague nature indeed, plausible theories were originated, to fall almost immediately beneath the searching and critical examination of the sceptical unbeliever, and ingenuity was taxed in vain in endeavouring to uphold and defend a series of doctrines, which depended solely for their existence on conclusions borrowed from the fertility of the imagination alone. There was, in fact, a neglect, or, more strictly speaking, an utter want of first principles, which might serve as the foundation stone for the formation of a superstructure so wide in its outline, and ample in its details, as the subject of animal physiology must necessarily be, if it was expected successfully to combat and withstand the numerous assaults with which it was sure to be assailed; for in investigations of this description, the very groundwork of which must at first be so difficult of comprehension even by the most enlightened mind, certain data must be in the commencement established before opinions can be hazarded, on which the smallest amount of reliance can possibly be placed; and hence originated that system of experimental physiology which attained so high a pitch of perfection in the hands of several of the continental inquirers, and was so successfully pursued by many of our own countrymen. Here was at length the first legitimate attempt made to arrive at the solution of a complicated problem by an appeal to the senses, and a series of facts was thus discovered, manifest to the eyes of all, which could be either verified or refuted by precisely the same means as those on which their very existence had been at first shown to depend. Many of the mysteries which had hitherto lain buried in an impenetrable obscurity were thus brought gradually into notice, and the revelation of one striking and important fact as necessarily led to the discovery

of another, linked and dove-tailed so closely as they were with each other, rendering it almost impossible to arrive at certain conclusions respecting the one without being insensibly drawn into the examination and attempt at explanation of another.

And now a new science appeared on the stage, one that from its nature was calculated to grapple with and elucidate many of those phenomena that to unassisted observation alone presented results not always perfectly satisfactory. Endued essentially with the power of reducing a whole to its several constituent parts, and arriving at certain fundamental elements by a series of laws, the uniformity of which, when once thoroughly understood, insured for them an universal respect, it conferred an accuracy on all inquiries of this nature, that placed them perfectly beyond the reach of all cavil and contradiction. What we allude to is the study of organic chemistry, which from very slight beginnings has been prosecuted with such untiring zeal and ardour as to have attained one of the highest positions in the sciences of the present day, forming the very key to many of the investigations which, without its aid, could never have been carried out with any prospect of ultimate success. But by its agency, however, those innermost secrets of nature which formerly resisted every effort to acquire an insight into them, constituting, in fact, a sealed book to the understanding, have been latterly unfolded gradually to our admiring gaze, making us acquainted with things that in our circumscribed philosophy we had never previously dreamed of, or even suspected their existence. And now there arose, as the fitting and powerful auxiliary to this branch of science, so zealously prosecuted, a more intimate acquaintance with the powers of the microscope, with all its striking revelations; it naturally conferred a fresh vigour on the subject, and several who were before doubtful on many points, which depended solely on the testimony of the organic chemist that they existed at all, were slowly induced to abandon those sceptical views which they had long entertained, and to yield a graceful assent to those doctrines which they had hitherto regarded with an unbelieving eye, and, as such, conscientiously opposed. They saw for themselves, and were convinced, becoming, in fact, the zealous advocates of what they had once ridiculed and treated as purely chimerical; while the novelty of the subject, and the charms with which it was invested, drew into the field a multitude of other inquirers, whose labours, although at first, perhaps, only desultorily directed, were still subservient to the same great purpose,—the elimination of truth; and, the results of their investigations, made at first without any direct object, and the

importance of which they were incapable of appreciating, accidentally attracting the notice of the inquiring physiologist, were, by his giant mind, carefully elaborated, constituting ultimately, perhaps, the nucleus of some novel and imposing theory.

But it was not to the microscope or chemistry only, that mankind was indebted for their progressive knowledge in the science of physiology. The taste for the study of comparative anatomy became very generally diffused, and the information thus obtained by a more intimate acquaintance with the physical organism of the lower classes of creation has succeeded in shedding a revealing light on the structure and functions of many parts, which, observed in man alone, had so repeatedly baffled the object of the inquirer, for it taught him that what was absolutely essential to the vitality of the one might exist in the other, not endued with the same important attributes, but simply as the type; in conformity with those great laws of nature, who would appear to love and admire uniformity even in her most minute and unpretending productions.

In a field of inquiry so vast and extensive, the life-toil of a single individual might have been expended in vain, in the futile effort to constitute what might relatively be termed an appreciable progress. The time, the energy, the talent of multitudes, were required to smooth the road that was beset with so many difficulties, and even although they might have comparatively succeeded in their object, other hands were yet wanting to give form and arrangement to the mass of material which still lay scattered in a confused and discordant heap, without order or connexion. It is, however, fortunate for mankind, that the human mind is endued with such a versatile propensity, that where one can direct his attention to the more laborious occupation of direct experiment, another will be found equally zealous in the task of collecting and methodizing the results of the discoveries of his fellow-labourer, to mould them into a shape not only intelligible, but interesting to the general reader. We hold it to be, in fact, the highest attribute of our race, this rare power with which we are gifted—the tacit appropriation of ideas one from the other, making what was at one moment an individual right, the next the common property of a whole community—the unquestioned heritage of generations yet to come, bequeathed to them, to be rendered yet more valuable and prolific by the exercise of additional labour and mental exertion. And to such, therefore, is virtually due no small degree of real merit, who, apart from every selfish motive of display, are satisfied to sit down and calmly

devote that ability with which they have been endowed to the less imposing task of collecting and bringing together the scattered views of others, reducing them to a uniform shape, scrutinizing with a critical but impartial eye the justice of what has been advanced, blotting out with an unsparing hand what would appear to be contrary to reason and incapable of bearing a strict investigation, impressing what is really useful and instructive, and, what is still more difficult, drawing such rational inferences from them as will have a tendency to promote the propagation of truth and the advancement of legitimate science.

If it were necessary to produce an example of what may be accomplished in this way, we would direct the attention at once to the work at present lying before us, issued from the American press, from the pen of Dr. Dalton. This System of Physiology, both from the excellence of the arrangement studiously observed throughout every page, and the clear, lucid, and instructive manner in which each subject is treated, promises to form one of the most generally received class-books in the English language. It is, in fact, a most admirable epitome of all the really important discoveries that have always been received as incontestible truths, as well as of those which have been recently added to our stock of knowledge on this subject by the labours of the leading microscopists and chemists of the present day, affording a concise but comprehensive view of the progressive steps by which the science has advanced to its present high standard of perfection, having with much wisdom, in our opinion, omitted the great majority of those disputed points, which in the infancy of this subject had crept into the field as great and established facts. In doing so, we conceive that the author has conferred a substantial boon on the student of physiology, as he has thus discarded a mass of material, curious, no doubt, in its nature, but avowedly erroneous, and, as such, worse than useless, for it could only have the effect of burthening the memory, where no positive advantage could be obtained as a compensating equivalent for the time expended in their acquirement. At the same time he has exhibited a most anxious desire to corroborate by actual experiment on his own part every result of importance that has originated from the researches of others, and has taken great pains to avoid introducing any single fact that has not been most cautiously sifted and thoroughly investigated. In all his inferences depending upon the exercise of reason, his deductions are always marked with good sense and careful discrimination; while his arguments in support of particular views are invested with a persuasive power that rarely

fails in carrying his reader along with him in the ideas which he so ably advocates. We will, however, proceed to give a few extracts from the book itself, as a specimen of its style and composition, and this, we conceive, will be quite sufficient to awaken a general interest in a work which is immeasurably superior in its details to the majority of those of the same class to which it belongs.

Speaking of the quantity of gastric juice that is required for the proper digestion of a given amount of ingesta, Dr. Dalton has given the following as the result of his investigations on this subject; and, although the statement may appear, at the first glance, extreme and exaggerated, on a careful perusal of his remarks we feel fully convinced that the truth of his views will be borne out by future experiment:—

"A very interesting question is that which relates to the *total quantity* of gastric juice secreted daily. Whenever direct experiments have been performed with a view of ascertaining this point, their results have given a considerably larger quantity than was anticipated. Bidder and Schmidt found that, in a dog weighing 34 pounds, they were able to obtain by separate experiments, consuming in all 12 hours, one pound and three-quarters of gastric juice. The total quantity, therefore, for 24 hours, in the same animal, would be $3\frac{1}{2}$ pounds; and, by applying the same calculation to a man of medium size, the authors estimate the total daily quantity in the human subject as little less than 14 pounds (av.). This estimate is probably not an exaggerated one. In order to determine the question, however, if possible, in a different way, we adopted the following plan of experiment with the gastric juice of the dog. It was first ascertained, by direct experiment, that the fresh lean meat of the bullock's heart loses, by complete desiccation, 78 per cent. of its weight. 300 grains of such meat, cut into small pieces, were then digested for ten hours, in ℥iss of gastric juice at 100° F.; the mixture being thoroughly agitated as often as every hour, in order to insure the digestion of as large a quantity of meat as possible. The meat remaining undissolved was then collected on a previously weighed filter, and evaporated to dryness. The dry residue weighed 55 grains. This represented, allowing for the loss by evaporation, 250 grains of the meat, in its natural moist condition; 50 grains of meat were then dissolved by ℥iss of gastric juice, or $33\frac{1}{3}$ grains per ounce.

"From these data we can form some idea of the large quantity of gastric juice secreted in the dog during the process of digestion. One pound of meat is only a moderate meal for a medium-sized animal; and yet, to dissolve this quantity, no less than *thirteen pints* of gastric juice will be necessary. This quantity, or any approximation to it, would be altogether incredible, if we did not recollect that the gastric juice, as soon as it has dissolved its quota of

food, *is immediately reabsorbed*, and again enters the circulation, together with the alimentary substances which it holds in solution. The secretion and reabsorption of the gastric juice then go on simultaneously; and the fluids which the blood loses by one process are incessantly restored to it by the other. A very large quantity, therefore, of the secretion may be poured out during the digestion of a meal, at an expense to the blood, at any one time, of only two or three ounces of fluid. The simplest investigation shows that the gastric juice does not accumulate in the stomach in any considerable quantity during digestion; but that it is gradully secreted so long as any food remains undissolved, each portion, as it is digested, being disposed of by reabsorption, together with its solvent fluid. There is accordingly, during digestion, a constant circulation of the digestive fluids from the bloodvessels to the alimentary canal, and from the alimentary canal back again to the bloodvessels.

"That this circulation really does take place is proved by the following facts:—First, if a dog be killed some hours after feeding, there is never more than a very small quantity of fluid found in the stomach, just sufficient to smear over and penetrate the half digested pieces of meat; and, secondly, in the living animal, gastric juice, drawn from the fistula five or six hours after digestion has been going on, contains little or no more organic matter in solution than that extracted fifteen to thirty minutes after the introduction of food. It has evidently been freshly secreted; and, in order to obtain gastric juice saturated with alimentary matter, it must be artificially digested with food in test tubes, where this constant absorption and renovation cannot take place."

With respect to the reabsorption of the bile after it has performed its destined function of assisting in the process of digestion, the author thus expresses himself:—

"We have endeavoured to complete the evidence thus furnished by Bidder and Schmidt, and to demonstrate directly the reabsorption of the biliary matters, by searching for them in the ingredients of the portal blood. We have examined, for this purpose, the portal blood of dogs, killed at various periods after feeding. The animals were killed by section of the medulla oblongata, a ligature immediately placed on the portal vein, while the circulation was still active, and the requisite quantity of blood collected by opening the vein. The blood was sometimes immediately evaporated to dryness by the water bath. Sometimes it was coagulated by boiling in a porcelain capsule, over a spirit lamp, with water and an excess of sulphate of soda, and the filtered watery solution afterward examined. But most frequently the blood, after being collected from the vein, was coagulated by the gradual addition of three times its volume of alcohol at ninety-five per cent., stirring the mixture constantly, so as to make the coagulation gradual and uniform. It was then filtered, the moist mass remaining on the filter subjected to

strong pressure in a linen bag, by a porcelain press, and the fluid thus obtained added to that previously filtered. The entire spirituous solution was then evaporated to dryness, the dry residue extracted with absolute alcohol, and the alcoholic solution treated as usual, with ether, &c., to discover the presence of biliary matters. In every instance, blood was taken at the same time from the jugular, or the abdominal vena cava, and treated in the same way for purposes of comparison.

"We have examined the blood in this way, one, four, six, nine, eleven and a half, twelve, and twenty hours after feeding. As the result of these examinations, we have found that in the venous blood, both of the portal vein and of the general circulation, there exists a substance soluble in water and absolute alcohol, and precipitable by ether from its alcoholic solution. This substance is often considerably more abundant in the portal blood than in that taken from the general venous system. It adheres closely to the sides of the glass after precipitation, so that it is always difficult, and often impossible, to obtain enough of it, mixed with ether, for microscopic examination. It dissolves, also, like the biliary substances, with great readiness in water; but in no instance have we ever been able to obtain from it such a satisfactory reaction with Pettenkofer's test as would indicate the presence of bile. This is not because the reaction is masked, as might be suspected, by some of the other ingredients of the blood; for if at the same time, two drops of bile be added to half an ounce of blood taken from the abdominal vena cava, and the two specimens treated alike, the ether precipitate may be considerably more abundant in the case of the portal blood; and yet that from the blood of the vena cava, dissolved in water, will give Pettenkofer's reaction for bile perfectly, while that of the portal blood will give no such reaction.

"Notwithstanding, then, the irresistible evidence afforded by the experiments of Bidder and Schmidt, that the biliary matters are really taken up by the portal blood, we have failed to recognise them there by Pettenkofer's test. They must accordingly undergo certain alterations in the intestine, previously to their absorption, so that they no longer give the ordinary reaction of the biliary substances. We cannot say, at present, precisely what these alterations are; but they are evidently transformations of a catalytic nature, produced by the contact of the bile with the intestinal juices.

"The bile, therefore, is a secretion which has not yet accomplished its function when it is discharged from the liver and poured into the intestine. On the contrary, during its passage through the intestine it is still in the interior of the body, in contact with glandular surfaces, and mingled with various organic substances, the ingredients of the intestinal fluids, which act upon it as catalytic bodies, and produce in it new transformations. This may account for the fact stated above, that the bile, though a constant and uninterrupted secretion, is nevertheless poured into the intestine in the greatest abundance immediately after a hearty meal. This is not

because it is to take any direct part in the digestion of the food; but because the intestinal fluids, being themselves present at that time in the greatest abundance, can then act upon and decompose the greatest quantity of bile. At all events, the biliary ingredients, after being altered and transformed in the intestine, as they might be in the interior of a glandular organ, re-enter the blood under some new form, and are carried away by the circulation, to complete their function in some other part of the body."

The following are very curious phenomena, depending on the extirpation of the spleen :—

"A very remarkable fact with regard to the spleen is that it may be entirely removed, in many of the lower animals, without its loss producing any serious permanent injury. This experiment has been frequently performed by various observers, and we have ourselves repeated it several times with similar results. The organ may be easily removed in the dog or the cat, by drawing it out of the abdomen, through an opening in the median line, placing a few ligatures upon the vessels of the gastro-splenic omentum, and then dividing the vessels between the ligatures and the spleen. The wound usually heals without difficulty; and if the animal be killed some weeks afterward, the only remaining trace of the operation is an adhesion of the omentum to the inner surface of the abdominal parietes, at the situation of the original wound.

"The most constant and permanent effect of a removal of the spleen is an unusual increase of the appetite. This symptom we have observed in some instances to be excessively developed; so that the animal would at all times throw himself, with an unnatural avidity, upon any kind of food offered him. We have seen a dog, subjected to this operation, afterwards feed without hesitation upon the flesh of other dogs; and even devour greedily the entrails taken warm from the abdomen of the recently killed animal. The food taken in this unusual quantity is, however, perfectly well digested; and the animal will often gain very perceptibly in weight. In one instance, a cat, in whom the unnatural appetite was marked, though not excessive, increased in weight from five to six pounds, in the course of a little less than two months; and at the same time the fur became sleek and glossy, and there was a considerable improvement in the general appearance of the animal.

"Another symptom, which usually follows removal of the spleen, is an unnatural ferocity of disposition. The animal will frequently attack others, of its own or a different species, without any apparent cause, and without any regard to the difference of size, strength, &c. This symptom is sometimes equally excessive with that of an unnatural appetite; while in other instances it shows itself only in occasional outbursts of irritability and violence.

"Neither of the symptoms, however, which we have just described appeared to exert any permanently injurious effect upon the

animal which has been subjected to the operation; and life may be prolonged for an indefinite period, without any serious disturbance of the nutritive process, after the spleen has been completely extirpated.

"We must accordingly regard the spleen, not as a single organ, but as associated with others, which may completely, or to a great extent, perform its functions after its entire removal. We have already noticed the similarity in structure between the spleen and the mesenteric and lymphatic glands; a similarity which has led some writers to regard them as more or less closely associated with each other in function, and to consider the spleen as an unusually developed lymphatic or mesenteric gland. It is true that this organ is provided with a comparatively scanty supply of lymphatic vessels; and the chyle, which is absorbed from the intestine, does not pass through the spleen as it passes through the remaining mesenteric glands. Still the physiological action of the spleen may correspond with that of the other lymphatic glands, so far as regards its influence on the blood; and there can be little doubt that its function is shared, either by them or by some other glandular organs, which become unnaturally active, and more or less perfectly supply its place after its complete removal."

In speaking of the reflex action of the nervous system, the author thus sums up his views on the subject:—

"We have now, in studying the functions of various parts of the cerebro-spinal system, become familiar with three different kinds of reflex action.

"The first is that of the spinal cord. Here, there is no proper sensation, and no direct consciousness of the act which is performed. It is simply a nervous impression, coming from the integument, and transformed by the gray matter of the spinal cord into a motor impulse destined for the muscles. This action will take place after the removal of the hemispheres, and the abolition of consciousness, as well as in the ordinary condition. The respiratory action of the medulla oblongata is of the same general character; that is, it is not necessarily connected with either volition or consciousness. The only peculiarity in this instance is, that the original nervous impression is of a special character, and its influence is finally exerted upon a special muscular apparatus. Actions of this nature are termed, *par excellence, reflex* actions.

"The second kind of reflex action takes place in the tuber annulare. Here the nervous impression, which is conveyed inward from the integument, instead of stopping at the spinal cord, passes onward to the tuber annulare, where it first gives rise to a conscious sensation; and this sensation is immediately followed by a voluntary act. Thus, if a crumb of bread fall into the larynx, the sensation produced by it excites the movement of coughing. The sensations of hunger and thirst excite a desire for food and drink.

The sexual impulse acts in precisely the same manner; the perception of particular objects giving rise immediately to special desires of a sexual character.

"It will be observed, in these instances, that, in the first place, the nervous sensation must be actually perceived, in order to produce its effect; and in the second place, that the action which follows is wholly voluntary in character. But the most important peculiarity in this respect is that the voluntary impulse follows *directly* upon the receipt of the sensation. There is no intermediate reasoning or intellectual process. We do not cough because we know that this is the most effectual way to clear the larynx; but simply because we are impelled to do so by the sensation which is felt at the time. We do not take food or drink because we know that they are necessary to support life, much less because we understand the mode in which they accomplish this object; but merely because we desire them whenever we feel the sensations of hunger and thirst.

"All actions of this nature are termed *instinctive.* They are voluntary in character, but are performed blindly; that is, without any idea of the ultimate object to be accomplished by them, and simply in consequence of the receipt of a particular sensation. Accordingly, experience, judgment, and adaptation, have nothing to do with these actions. Thus the bee builds his cell on the plan of a mathematical figure, without ever performing any mathematical calculation. The silkworm wraps himself in a cocoon of his own spinning, certainly without knowing that it is to afford him shelter during the period of his metamorphosis. The fowl incubates her eggs, and keeps them at the proper temperature for development, simply because the sight of them creates in her a desire to do so. The habits of these animals, it is true, are so arranged by nature, that such instinctive actions are always calculated to accomplish an ultimate object. But this calculation is not made by the animal himself, and does not form any part of his mental operations. There is, consequently, no improvement in the mode of performing such actions, and but little deviation under a variety of circumstances.

"The third kind of reflex action requires the co-operation of the hemispheres. Here, the nervous impression is not only conveyed to the tuber annulare, and converted into a sensation, but, still following upward the course of the fibres to the cerebrum, it there gives rise to a special train of ideas. We understand then the external source of the sensation, the manner in which it is calculated to affect us, and how by our actions we may turn it to our advantage or otherwise. The action which follows, therefore, in these cases, is not simply voluntary, but *reasonable.* It does not depend directly upon the external sensation, but upon an intellectual process which intervenes between the sensation and the volition. These actions are distinguished, accordingly, by a character of definite contrivance, and a conscious adaptation of means to ends; charac-

teristics which do not belong to any other operations of the nervous system.

"The possession of this kind of intelligence and reasoning power is not confined to the human species. We have already seen that there are many purely instinctive actions in man, as well as in animals. It is no less true, that in the higher animals there is often the same exercise of reasoning power as in man. The degree of this power is much less in them than in him, but its nature is the same. Whenever, in an animal, we see any action performed with the evident intention of accomplishing a particular object, to which it is properly adapted, such an act is plainly the result of reasoning powers, not essentially different from our own. The establishment of sentinels by gregarious animals, to warn the herd of the approach of danger; the recollection of punishment inflicted for a particular action, and the subsequent avoidance or concealment of that action; the teachability of many animals, and their capacity of forming new habits or of improving the old ones, are all instances of the same kind of intellectual power, and are quite different from instinct, strictly speaking. It is this faculty which especially predominates over the others in the higher classes of animals, and which finally attains its maximum of development in the human species."

It would be a task as invidious as unprofitable to take up the reader's time with any further quotations, as, from the extracts given above, a very fair estimate may be formed of the spirit that prevails in the entire volume. In its purity of style and elegance of composition it may safely take its place with the very best of our English classics, while in accuracy of description it is impossible that it could be surpassed. In every line is beautifully shadowed forth the emanations of the polished scholar, whose reflections are clothed in a garb as interesting as they are impressive; with the one predominant feeling appearing to pervade the whole—an anxious desire to please and at the same time to instruct. The assistance of art has likewise been invoked as auxiliary to the powers of verbal description, and the faithful illustrations with which nearly every page is studded are such as to do infinite credit to the genius and enterprise of our Transatlantic brethren in this particular department. In closing our observations on this production of Dr. Dalton, we can only reiterate what we have already stated—the firm conviction we entertain that it must yet take its place on the shelves of the physiologist, as one of the best and most effective works that has appeared for many years.

A Treatise on Medical Electricity, Theoretical and Practical; and its Use in the Treatment of Paralysis, Neuralgia, and other Diseases. By J. Althaus, M. D. London: Trübner & Co. 1859. 8vo, pp. 352.

That the two most powerful agents in all nature, electricity and oxygen, the two most extensively diffused, and the two which every day we witness producing around us the most energetic action, should hitherto have proved but of little service in the treatment of disease in the hands of the practising physician, has been the subject of surprise and astonishment in the minds of all who have ever reflected on the subject. Various have been the efforts made to press them into the service of the therapeutist; and the success attending such efforts has been so varying, and the reports as to their efficacy so contradictory, that we believe we would but be giving the unanimous verdict of the great majority of practitioners were we to state that, on the whole, they have been worse than useless in the treatment of disease,—producing either *positive* injury by their injudicious administration, or *negative* injury by being employed to the exclusion of remedies of more approved efficacy. Therefore is it that we hail with pleasure the appearance of a treatise on the subject of medical electricity, evidently the work of a scientific mind, anxious to place at our disposal all the facts connected with this plan of treating disease, to state on what grounds we should employ it, the manner in which it should be used, and the circumstances that contra-indicate its administration.

And that Dr. Althaus is not himself unimpressed with the contradictory nature of the opinions entertained by the profession as to the therapeutic value of electricity, is proved by this passage, which we extract from his preface, in which also he has given the true explanation of why this diversity of opinion should prevail. In our minds it is one of the strongest arguments we can employ with our readers when we recommend to their perusal and consideration the present work, in which the whole question is treated in a comprehensive, scientific, and practical manner.

"There are few remedies employed in the treatment of disease on the value of which the professional mind is less settled than on that of galvanism. Enthusiastic panegyrists contended, fifty years ago, and contend still, that it is a theurapeutical agent superior to all hitherto discovered, whilst the great majority of the profession entertain serious doubts as to the reality of the remarkable successes which are now and then recorded by medical galvanists.

"The differences of opinion about the therapeutical value of electricity are readily to be understood if we bear in mind that the mode in which electricity is applied has an all-important bearing upon the results. It is true that even by a careless employment of galvanism a few accidental successes have been obtained; but in ninety-nine cases out of a hundred, empirical galvanists, being unacquainted with the physiological effects of electricity, have been disappointed, and have brought the remedy into undeserved contempt.

"We know that, whatever may be the properties of the nerves, they can be called into action by galvanism. But the effects are widely different according to the form of electricity that is used; again, the quantity and intensity of electricity are both of great importance; not less so the mode in which it is transmitted to the human body, and the length of time during which its action is kept up. In fact, we are able by merely varying the modes of applying electricity, to arouse or to kill the vital power of the nerves, and to diminish or to increase their properties. Hence electricity can only be expected to be of service in the treatment of disease, if we are guided in its use by an exact knowledge of the physiological effects which it will invariably produce. I have, therefore, been most anxious to render the physiological part of my work as complete and comprehensive as possible."

The work itself is divided into five chapters, the first of which treats of the different forms of electricity. The second is occupied with a consideration of what the author terms electro-physiology, and is, perhaps, one of the most instructive chapters in the entire work: in it we find fully stated all that has hitherto been ascertained by former investigators, together with much original matter; he places at our command a full resumé of the subject, and points out accurately the differences in the physiological effects produced by electricity, depending on the form, quantity, and intensity of it employed, the mode in which it is transmitted to the various organs subjected to its application, and on the function and state of vitality of the organ submitted to its action.

The third chapter is devoted to the consideration of the various kinds of apparatus employed either in electrization, galvanization, or faradization, and, in our opinion, would have had its value much enhanced for the student had Dr. Althaus introduced a few plates, illustrative of the different kinds of instruments he has described.

The fourth chapter enters into an examination of the *quæstio vexata* of electricity as a means of diagnosis. Marshall Hall, Todd, Copland, Pereira, Duchenne, each in their turn have their views submitted to a rigorous examination; and the author winds up the subject with the following summary, the

facts in which have been, in our mind, substantiated by his previous reasoning:—

"We have thus arrived at the result that the muscles of paralyzed limbs may present three different conditions when subjected to the action of the electric current, and that this may enable us, in certain cases, to form the diagnosis of the paralyzing lesion.

"1. If the excitability of the muscles—or rather the polarity of the motor nerves—be *increased* in the paralyzed limb, the case is one of *cerebral paralysis*, connected with an irritative lesion within the cranium.

"2. If the excitability of the muscles be nearly or totally *lost*, we have, in all probability, either *lead palsy* or *traumatic paralysis;* but it must be kept in mind that certain hysterical and rheumatic palsies of long standing present the same peculiarity; and that it may also be found in cases of disease of the brain and cord.

"3. *If paralyzed muscles respond readily to the electric current*, there is no lead in the system, nor is the connexion between the motor nerves of the paralyzed muscles and the cord interrupted; but if such cases are of *long standing*, they are due to *brain disease;* and if they are of *recent standing*, they are generally instances of *hysterical*, *rheumatic*, or *spontaneous* paralysis."

The fifth chapter, after all, we imagine, will prove of greatest interest for the medical man actively engaged in the duties of his profession. It is occupied with a consideration of the subject of electro-therapeutics. The principal diseases in which it has been employed are enumerated, and the success attending its application is stated with apparently extreme candour. Many illustrative cases are recorded, and justice compels us to add that Dr. Althaus has handled this portion of his subject with singular ability and strict impartiality. One omission struck us as being strange, that no mention is made of "painters' colic" as being one of those diseases in which marked and speedy relief has been obtained by the Faradic plan of treatment. We now refer to the relief afforded to the excruciating *pain* so frequently a prominent symptom in this disease, for full justice has been meted out to it as a remedy for the constipation and paralysis attendant on saturnine intoxication. This chapter concludes with a passage that merits well the most careful consideration at the hands of our professional brethren, for we fear much that the employment of this agent, so potent either for good or evil, has been too frequently based on an empirical foundation, it being but too generally believed that if it does no good, it can certainly do no harm. How true this opinion may be, will be at once decided by a perusal of the passage in question:—

"In conclusion, a few words may be said on the accidents which may be caused by an injudicious application of electricity. This powerful agent is not one of those remedies which, if they do no good, can do no harm; but, on the contrary, it may, in the hands of an inexperienced operator, do a great deal of mischief. Thus, blindness has been caused by the application of the continuous current to the face in paralysis of the portio dura; fainting, cramps, hysterical fits, and palsies have been produced by administering too powerful currents; and fresh apoplectic attacks have been induced in patients who had suffered before from hemorrhage into the brain. Accidents of this kind can only be avoided if the operator is guided by physiological knowledge and sufficient therapeutical experience. In this remedy more than in any other the mode of application has an all-important bearing upon the results; for it is not electricity that cures diseases, but the physician, who may cure diseases by means of electricity."

The book concludes with an Appendix, containing some interesting details in connexion with atmospheric electricity and lightning; and the entire work is one that, in these days of book-making, it is refreshing to meet with. It is, as we have before stated, evidently the production of a philosopher, and of one who studies his profession in the only way in which it ever should be studied—in a sound spirit of inductive philosophy. And we are but discharging our duty to our readers in most strongly recommending it to their notice.

Some Observations on the Coagulation of the Blood. By John Davy, M. D., F. R. S. Lond. and Edin. Reprinted from the Transactions of the Royal Society of Edinburgh. 4to, pp. 7.

Dr. Davy details a number of experiments suggested by Dr. Richardson's elaborate and able work on the "Causes of the Coagulation of the Blood," which we have reviewed at considerable length in the twenty-fifth volume of our present series. Dr. Davy's investigations appear to have been judiciously designed and carefully conducted, and lead him to conclusions very different from those deduced by Dr. Richardson. We shall briefly describe his principal results.

From a number of experiments on the blood of the common fowl, obtained by dividing the great vessels in the neck, and selected because the blood of birds exhibits the phenomenon in question in the most striking and rapid manner,—the author infers:—

1. That there are no indications afforded of the escape of volatile ammonia during the coagulation of the blood of the fowl, or of the presence of this principle in the blood.

2. That the addition of ammonia in a notable quantity does not prevent coagulation.

3. That a sudden reduction of the temperature of the blood, even when fully exposed to the air, has a greater influence in retarding the coagulation than the assigned cause of its fluidity, the volatile alkali when added.

The few trials made by the author with the sesquicarbonate and neutral carbonate of ammonia tend to show that—

"These salts of ammonia, used in small quantities, have the effect of retarding coagulation, analogous in this their influence to most of the salts of the alkalies; and, like them, we know that in a large proportion they prevent it, and yet that, on dilution with water, coagulation takes place."

Some further experiments, also made with the view of testing the hypothesis advanced, that the presence of ammonia in the blood is the cause of its fluidity, are detailed. These are designed to show that—

"Even on the supposition of ammonia existing in the blood in a volatile form, no appreciable quantity can escape in the short period of two or three minutes, which is about the time required for the coagulation of the blood of the fowl."

And that—

"The volatile alkali, in its action on fibrin, is chiefly remarkable for rendering it viscid, and that its solvent power is inconsiderable."

Dr. Davy, in conclusion, observes, that as his results—

"Are opposed to the inference of the coagulation of the blood being owing to the escape of any volatile matter, and, *à fortiori*, of the volatile alkali, the existence of which in the blood even remains to be proved, they leave the phenomenon, as hitherto, a problem for solution, and open to question whether it be the result of loss of vitality, or a chemical result depending on a new arrangement of elements of the coagulating part, the fibrin, without, as regards their number, any change of their sum."

We have thus endeavoured to lay before our readers, nearly in the language of the author, the principal inferences drawn by Dr. Davy from his investigations, referring those anxious to pursue the subject further to the original communication for the details of the experiments. Valuable as the researches of

Dr. Richardson are on all sides admitted to have been, there can be no doubt they did not finally decide the question they were designed to answer, and it is to be expected that the re-opening thereof by so distinguished a philosopher as Dr. Davy shall have the effect of directing fresh inquiries to this important subject, and of eventually throwing light upon it.

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1. *Om Uræmi.* Af S. G. Troilius.

   On Uræmia. By S. G. Troilius. Stockholm: Eric Westrell. 1858. 8vo, pp. 56.

2. *Kort Öfversigt af Epidemiska Sjukdomar i Sverige under år* 1857. Af A. Timoleon Wistrand. (Aftryck ur *Hygiea.*)

   A brief Review of the Diseases Epidemic in Sweden in 1857. By A. Timoleon Wistrand. (Reprinted from the *Hygiea.*) Pp. 26.

3. *Kort Öfversigt af Koppfarsoten i Sverige åren* 1847–1855. Meddelad af Dr. Timoleon Wistrand. (Aftryck ûtur *Hygiea.*)

   A short Review of the Epidemic of Small-pox in Sweden during the Years 1847–1855. Communicated by Dr. Timoleon Wistrand. (Reprinted from the *Hygiea.*) Pp. 10.

4. *Rättsmedicinska Utlåtanden.* Meddelade af A. Timoleon Wistrand. 1–2.

   Findings in Forensic Medicine. Communicated by A. Timoleon Wistrand. 1–2. Stockholm: Norstedt and Sons, Printers to the King. 1859. Pp. 15.

5. *Beretning om Behandlingen paa Rigs hospitalets Hudsygeafdeling fra* 1*ste Juli*, 1856, *til* 30*te Juni*, 1858. Af Reservelæge A. Holst, Aftrykt af Norsk Magazin for Lægevidenskaben, xiii. Bd., 8 Hefte.

   Report on the Treatment in the Division of the Royal Hospital appropriated to Cutaneous Diseases, from July 1, 1856, *to June* 30, 1858. By A. Holst, Physician Extraordinary. Reprint from the Norsk Magazine. 8vo, pp. 36.

1. The first work in the above list is an academic thesis for a degree in medicine in the University of Upsal, containing a careful resumé of the observations of British and Continental writers upon the subject of which it treats. The author con-

cludes the first part of the work with the following propositions:—

i. For the occurrence of uræmia, urea must exist in the blood in abnormal quantity.

ii. Intoxication does not, however, take place, until the urea has undergone some change, which is as yet imperfectly understood.

iii. The causes of this change are rather suspected than positively demonstrated.

iv. It is probable, though it is not fully ascertained, that the change in question consists in the conversion of urea into carbonate of ammonia.

v. The definition of uræmia, therefore, is:—Intoxication depending on the presence in the blood of the products of the decomposition of urea.

2. In the opening paragraph of the second pamphlet in our list, Dr. Wistrand informs us that the year 1857 was, in Sweden, one of very unusual sickness. This he attributes principally to the great heat of the midsummer, which, after a dry winter, produced several weeks of uninterrupted drought, and caused in many places a scarcity of drinkable water, undoubtedly laying the foundation of the tendency to disease in the digestive organs, which at that time began to manifest itself in several parts of the country. In addition, the deficiency of the harvest of the preceding year in some localities, caused the food to be of not the best quality, and this, together with the high price of the necessaries of life, contributed to favour the general unhealthiness.

In an epidemiological point of view, the year 1857 bore a general resemblance to the preceding year, the prevalent diseases being, as in 1856, eruptive fevers, hooping-cough, mumps, gastric, nervous, inflammatory, and catarrhal fevers, brain fevers, cholera, dysentery, diarrhœa, and ague; scarlet fever, measles, and hooping-cough, continued rather prevalent, about equally so as in 1856; gastric and nervous fevers occurred, as in the preceding year, in general only sparingly; croup, too, manifested itself only sporadically; and diphtheritis here and there followed both this and the eruptive fevers. In 1857, as in 1856, there was no such unusual tendency to abscesses and whitlows as was observed in 1855.

Among the points of difference it is to be remarked that the most prominent disease of the preceding year, ague, occurred comparatively rarely; that the epidemic of small-pox, which broke out in 1856, progressively acquired considerable

extent; that the epidemic meningitis likewise increased in frequency and extent; that cholera again occurred with a frequency which had for many years been rarely observed; and that dysentery devastated great parts of the kingdom with unusual violence; in addition, an epidemic catarrhal fever had, with much violence, passed over the greater part of the land; and lastly, scurvy had, in certain places, attacked the population to an unusual extent.

Dysentery, cholera, brain fever, and influenza, were the most prominent epidemics of the year.

3. From Dr. Wistrand's second pamphlet, the third on our list, we learn that, exclusively of the epidemic which forms the special subject of the work, not less than three closely consecutive epidemics of small-pox, each lasting several years, have, since 1822, invaded Sweden. The years of culmination have been:—1825, deaths 1243; 1833, deaths 1145; 1839, deaths 1934; and 1851, deaths 2488. The years of greatest diminution have been:—1829, deaths 53; 1836, deaths 138; 1843–1846, deaths 9, 6, 6, and 2, respectively; and 1855, deaths 41. The author remarks that, in general, the epidemic has manifested a fresh increase about every seventh year.

4. The fourth pamphlet quoted at the head of this article is a "Contribution to Medico-Legal Investigations respecting Bodily Injuries in Drunken Individuals." Cases not unfrequently occur where injured persons have been stupified with strong drink, and the question arises, whether this circumstance has contributed to the fatal result of the injury. The author points out that it is essential to ascertain whether the excess of spirits has been taken before or after the receipt of the injury. In the former case, or when any one in a state of intoxication gets into a fray, and afterwards dies, the intoxicated state can, with respect to the effects of the injury, be considered only as a particular state of the body,—a preceding morbid condition in the injured person,—which certainly, if the drunkenness has attained its highest degree, might, independently of the injury, have terminated fatally, but otherwise, as every previous morbid state in an injured person, has, in an objective respect, no importance, or only remote importance, in the question of the effect of the bodily injury in producing death.

But, in the latter case, when any one, after being injured, drinks to excess, the drunkenness must be considered as a superadded disaster, which may have a very essential influence on the results of the injury, and so may co-operate in producing

the fatal result. If the injured person has, in his drunken fit, fallen down and further injured himself, the question also arises, whether, and to what extent, this latter accident may have contributed to cause the patient's death.

After some further observations, two cases are given, at considerable length, in illustration. Of these we can only quote the headings:—

i. *Lars Svenson, somewhat intoxicated, was beaten and kicked, and died immediately after. On post-mortem examination, wounds and ecchymoses were found on the head, and extravasation of the blood within the skull.*

The Court having requested the Royal College of Health to state their opinion as to how far the deceased's death was due to violence, &c., the College answered, after due investigation (ransakning):—

1. That the proximate cause of Lars Svenson's death, which took place on the 21st of July, was the extensive extravasations of blood within the skull, observed at the post-mortem examination.

2. That these extravasations of blood were undoubtedly caused by the violence committed on the diseased shortly before his death by the accused, Anders Nilson, Svärd, and Magnusson.

3. That it cannot, with certainty, be decided which of the blows inflicted on the head was the principal cause of the extravasation of blood within the skull; but that the latter must be assumed to have been the result of all the blows in common.

4. That the circumstance that the deceased had been, on this occasion, somewhat intoxicated, cannot reasonably be assumed to have contributed to the development of the extravasations of blood, and, consequently, cannot have been in any respect conducive to his death.

The second case is thus headed:—

ii. *Anders Olsson, intoxicated, falls down, and loses all sensation and power of motion; is violently shaken with a view to produce vomiting; dies after the lapse of some hours. On post-mortem examination, suspected bruises on the neck and several parts of the body; extravasation of blood within the skull.*

The report of the College of Health on this case was:—That the proximate cause of Anders Olsson's death undoubtedly was the considerable extravasation of blood observed within the skull at the post-mortem examination; that this extravasation of blood, considering that Anders Olsson in going from the ale-house became more and more unconscious, and finally, after falling down at Brändgården, lost all sense and

power of motion, may reasonably be assumed to have occurred in consequence of his intoxicated state, with the co-operation of the severe cold to which he was exposed, and the fall he got while in this condition; but, that nevertheless, the careless treatment which Plog Anders Olsson, and Qvarnberg Hans Ersson (though with good intention), and afterwards Lispers Anders Olsson, subjected him to, cannot be adjudged free from all co-operation in increasing the extravasation, and, therefore, in some measure, in hastening the fatal result.

5. The portion of the Royal Hospital at Christiania intended for the reception of cutaneous diseases would appear, from Dr. Holst's Report, to be by no means reserved exclusively for affections of the skin. Some among the non-cutaneous diseases enumerated in the table may, no doubt, have occurred intercurrently, but others contribute so large a quota that this can scarcely be the case. Syphilization occupies a comparatively large section of Dr. Holst's pamphlet; but this is a subject which we have already sufficiently considered in former Numbers of this Journal. The following is an extract from the author's observations upon syphilis:—

"Primary syphilitic ulcers were always touched with caustic, and covered with lint dipped in chlorine water or liquor plumbi, the wet lint being frequently changed. The caustics used were the Vienna paste, Lapis infernalis, or Ricord's paste above mentioned. Internal remedies were never employed; consequently, mercury was never given. The indurated chancre was treated in the same manner as the simple, as it was believed to be far from certain that the adoption of an anti-syphilitic treatment would prevent the occurrence of secondary syphilitic symptoms.

"According to what I observed during this period, I consider that the difference between the indurated and the non-indurated, so-called simple chancre, is not so great as is generally thought, or, in other words, I believe in the unity of the virus, as it has frequently happened, particularly in females, that simple chancre has been followed by secondary syphilis.

"Secondary cases, of which many have been under treatment during the time comprised in the Report, have most frequently been developed six, eight, or ten weeks after the occurrence of the primary chancre. In men cicatrices have generally been left after the chancre or suppurated inguinal glands, while in women they were often absent."

The Institutes of Medicine. By MARTYN PAYNE, M. D., Professor of the Institutes of Medicine and Materia Medica in the University of the City of New York. New York: Harper and Brothers. 1858. Fourth Edition, pp. 1095.

A BOOK which has passed through four editions is usually considered to have stood the test of criticism with success, and to have fairly established for itself a place in public esteem. But this judgment is founded on an inadequate appreciation of the manifold causes of successful book-writing. It is occasionally rather connected with temporary conditions, such as mere controversy for more or less personal ends, than with permanent or really useful additions to our knowledge. In biography the craving for the details of the life of a recently dead hero, savant, or statesman, is sufficiently powerful to outweigh even considerable defects in the manner of conveying such details. Perhaps the most popular biography in the English language is Southey's Life of Nelson, but it is certainly a book of very small real merit as compared with the appreciation in which it is held; Bishop Tomline's Life of Pitt is simply contemptible, though long quoted as an important contribution to literature; Newton's Life was reserved, after several feeble efforts, for the masterly hand of Brewster; and we hope that we shall yet see such a memoir of Sir Humphrey Davy as will give a just estimate of this many-sided mind. The temporary wants of education, the accidental position of the author, will often give an adventitious importance to a book of very poor performance. Many a man is a hero to his class, and is apt to imagine the outside and more advanced public equally ready to purchase and to praise his written efforts as the enthusiastic youths who crowd his benches. Armstrong's Lectures on the Practice of Physic, while containing many indications of genius, and not a few really eloquent passages, have long lost what place they ever had in general estimation, though it is evident their author thought himself a great public benefactor, an opinion in which he was fortified by the undiscriminating laudations of the little public who sat before his chair.

There are some men, too, who, having got hold of what they consider a great idea,—one of great importance to the community,—never cease to bore the public with the reiterated declarations of their views, for the most part in a highly polemical spirit, and a certain amount of success is finally attained. Thus Marshall Hall deemed himself the prophet of the true spinal cord. He must have often dreamed of excito-motor functions, if his inner life was at all a reflex of the con-

tinuous excitement which he maintained so sorely out of doors. No book was too crude, too imperfect, which served to launch upon his satiated brethren his notions of nervous actions. Here was a truly great man, who contrived to make himself half ridiculous and wholly disliked, by yielding himself up to one notion, one side of which was all he would see or understand. Similarly, Dr. Payne seems to believe himself specially called upon to inform the world that there is such a thing as a vital principle; that chemistry and mechanics have nothing to do in animal life; and that all actions are in subordination to that principle only. Seeing this point most strongly, his eyes are nearly closed to the mighty mass of knowledge derived of late years from physics and chemical science: and he fastens upon Liebig an amount of quotation, with adverse criticisms annexed, which must have astonished that learned chemist's publisher. In his own city there is an eloquent expositor of very different views in the person of Dr. Draper, an earnest worker at physical and chemical science, but who sets at nought the speculations upon final causes and vital principles, which have been almost as definite and fundamental postulates to Dr. Payne. This circumstance might have contributed to sharpen the polemical spirit in our author. It is a misfortune that he did not attempt some more positive inquiries than those upon which he has entered, for modern physiology can scarcely give a *locus standi* to this professor. In argument with her energetic opponent she finds it difficult to pitch upon a common ground from whence to assault an author who believes questions of final causes of existences, the precise point of time at which the soul originated, and the relation of a vital agent to certain functions, fitting questions for controversy, inquiry, and observation: experiments being, of course, impossible.

Dr. Payn emakes a three-fold and very sound division of his subject. The first 400 pages are devoted to what the author considers physiology; the next 140 pages to pathology; the remainder to therapeutics, including a very extended omnium-gatherum appendix, and a truly mighty index, whose elaboration is certainly more than ordinarily disproportionate to the small value of the things indexed.

We shall not occupy ourselves with a full account of the chapters which go to form the first part, but will rather endeavour to place our readers in the point of view from which Dr. Payne has surveyed the wide domain of physiological science. He commences by declaring that solidism and vitalism will form the basis of the Institutes, and that the immediate ob-

jects of physiology are a critical analysis of the "vital conditions and results of organic beings," as manifested in different organs, and in their relations to each other. It contemplates organic nature, therefore, in its natural state; and the laws which it obeys are its highest end. Limiting thus the scope of the science, and the mode of ascertaining physiological laws, Dr. Payne rejects physical and chemical conditions from the one, and experiment from the other. In other parts of the treatise he shows us that he is quite prepared for such a conclusion. The author states that there are now three schools in the physiological world,—the chemical, whose chief is Liebig; the school of vitalism, whose chief is Dr. Payne; and the school of chemico-vitalism, whose chief is that ubiquitous personage, commonly styled—everybody,—if by that term the American Professor means the doctrine which recognises at once the importance of the organic substratum, and the peculiar properties of living bodies, and the vast rôle played by chemistry and physics in animal life. But this last school appears to Dr. Payne not less worthy of repudiation than the exclusive chemical school, for, according to him, it makes "a compromise with philosophy," and takes for its rule, "in medio tutissimus ibis." This is the school to which the young student has the greatest chance of becoming the victim, although it is regardless, as we are gravely told, of the universal consent with which physiology has been hitherto restricted to the conditions, functions, results, and laws of living beings; and chemistry, to the conditions and laws of dead matter. This divorce of sister sciences, which mutually illustrate and explain each other, is as unnatural as it is impossible. We cannot express in intelligible language the simplest or the most complex parts of physiology without having recourse to the facts and doctrines of chemistry and physics. Fortunately, such language is not mere metaphor, but is supported by irrefragable analogies, which offer proof of the nexus which binds so closely the whole material world. But Dr. Payne, in his aversion to the mere chemical theory of animal functions, rushes headlong to the denial of the relation of chemical forces to those functions; and treats of life as an entity not merely separate from other material things, which may be fairly admitted, but as something acting altogether, and under all circumstances, under the dominion of laws unknown in the inorganic world.

This mental peculiarity prevents the author from adequately appreciating the most patent facts in the science, and drives him to conclusions both paradoxical and retrogressive. As for compromise, no one is fitted to write about any matter in sci-

ence or art who has not thoroughly learned that all mundane knowledge is based on compromise, the conciliation of varied impulses, and the correlation of diverse forces. The author sits heavily upon Liebig, from whom there are innumerable quotations in the early part of the book, and who really appears to be his *mauvais sujet.* The chemist's very just admission that the elements of organic beings are united by a peculiar mode of attraction, resulting from the existence of a power distinct from all other powers in nature, is at once seized by his critic as a justification even of "transcendental vitalism" in all its aspects. But if this be the case, all the elaborate refutations of Liebig's theories must be, at least, superfluous, on Dr. Payne's own showing. The vital properties are discussed at considerable length, and the "nervous power" has a great share of attention. The author does not pursue the time-honoured mode of interrogating functions through the phenomena they manifest either in natural or artificial conditions, although he appears to admit that this is the only method by which we can know anything about them; he prefers to discuss what the nervous power is not, rather than the nature of its manifestations; and finds in the connexion of the mind and body a basis of analogical argument by which we are to conceive the bond between the nervous power, the vital principle, and other parts of the organization. But here Dr. Payne inverts the important maxim of explaining obscure things by the less obscure. We despair of much progress in nerve physiology, if we are to await a fuller knowledge of the connexion of the mind and body as a preliminary to such progress. There is very imperfect information for the student in these chapters, for the acquaintance of the author with the subject stops with Bell, Müller, Marshall Hall, and Wilson Philip.

Under the head of "Absorption" we are told that Magendie was in error in supposing the veins had the power of absorption, and, *horribile dictu*, that the lacteals have open orifices in the intestinal villi, in spite of the microscopists, for whom Dr. Payne has a most genuine contempt; capillarity, endosmose and exosmose, are simply denied; and it is averred that noxious substances do not readily get into the circulation, "because the inoffensive colouring matter of the bile is alone absorbed." We feel sure that there are very few of Dr. Payne's pupils who are unable to correct this last remarkable misstatement, which is not creditable to the author. Remedial, like morbific agents, draw a very limited operation, through "their absorption into the circulation;" but all experience and

reliable experiments give a precise contradiction to this declaration.

The section on "Assimilation" is interesting on many grounds. The author can swallow a great deal,—his faith is greater than we have been accustomed to in these positive times,—but he doubts every sort of globule revealed by the microscope. The *naive* expression, that the "chyle is *said* to exhibit globules under the microscope, which is probably true," is really refreshing, when we consider how many hours we have devoted to their study. Still, it is not fair to express surprise at the Professor's ignorance, since he has a reason for it, which he does not fear to give. "These questions as to the existence and shape of the globules of blood, chyle, milk, &c., are of no further practical importance than as they lead to much waste of time, and incumber medicine with speculation and false doctrine." So much for the boasted science of the nineteenth century. So much for the pomp and circumstance of micrology,—for Robert Brown, Hewson, Wharton Jones, and so forth. Dr. Payne has measured them and their researches, and to him they are simply impediments to be brushed away.

The author treats of "Digestion" as a vital process only, and utterly repudiates all experiments which show that chemistry has anything to do with it. No reason can be assigned, he states, why the vital principle may not be equal to the whole work of digestion, and of every other process of living beings. Anything approaching to solid information is not to be found here, but its place is verbosely supplied by the weakest speculations. There is not the slightest allusion to Bernard, Bidder and Schmidt, Lenz, Lehmann, &c. &c.

In the section "on the Moving Powers of the Blood" we are informed that the venous circulation is determined principally by the suction or derivative power of the right cavities of the heart, but is aided by the contractile power of the large veins, by the more specific action of the capillary veins, and by the propelling power of the communicating series of arterial capillaries. The part of the heart as a propelling organ is left out by special desire, though we have the most positive experimental evidence that a demonstrably less propulsive *vis a tergo* than that exercised by this organ is competent to carry the blood through the whole system. But cannot our ingenious Professor see that he proves too much for the subsidiary forces which he partly invents and wholly exaggerates? The "contractile power" of the large veins must be a mere trifle com-

pared with that of the arteries, if force has anything to do with structure, which, possibly, Dr. Payne would not admit; when to this is added the *vis a fronte* resulting from the action of the capillaries and veins, supplemented by the central suction power, what can be the use of the left ventricle? Perhaps it has nothing to do with the circulation of the blood, notwithstanding Harvey and his followers, but may be, after all, the reservoir of the animal spirits, as some of the ancients believed. We commend this consideration to Dr. Payne in his next edition.

In the section on "Excretion" we find the statement that critical observations on the fluctuating states of the urine in disease are but relics of the superstitious ages of humoralism; and that all that "is practically useful" in relation to that secretion is generally "best ascertained by mere inspection; and upon this subject we have all, *and more than is desirable*, from Hippocrates himself!" At one stroke this eminent physiologist cuts away some of the most precious points of modern inquiry. Albumen, sugar, fibrinous casts, excess or deficiency of phosphates, sulphates, chlorides, crystalline deposits, and cell-products, are all engulfed in Dr. Payne's ignorance, and we are reminded that even Hippocrates knew too much of the urine.

The process of "Calorification" might have been imagined to be a stumbling-block to a non-believer in organic chemistry, but it does not prove so in these Institutes. The author regrets that mankind has been carried away by the simplicity of chemical dogmas, and elaborately controverts all that has been done in this aspect from Crawford to Liebig. With him heat is an animal product, produced by the inherent vital properties, having nothing to do with vulgar chemical combinations. Neither the union of the oxygen of the air with the carbon of the blood, nor with that of the body; "neither that act in respiration, nor the excretion of carbon, have any greater connexion with the production of animal heat than with that of the gastric juice, or any other result of the organic functions." He treats of the facts which show an instinctive desire for fatty foods in Arctic regions as vulgar prejudices, and finally concludes with the startling declaration that the physiologist undertakes no explanation of the modus in which organic heat is elaborated. He avoids all inquiries of that nature, although he might proceed to interrogate the manner in which the vital principle operates with as much propriety as the chemist speculates upon the cause of the phenomena of combustion. "But in doing this he would trespass upon in-

scrutable difficulties, and encumber philosophy with useless hypotheses."

The sections on the "Nervous Functions" are extremely unsatisfactory, and consist of quotations from Müller (though Dr. Payne does not follow that illustrious physiologist in other parts of his subject), and an extensive selection of the experiments of Wilson Philip. Many of these rather support the peculiar views of the author, which circumstance seems to have temporarily mitigated his aversion to experimental science. We have pleasure in avowing that here are many interesting observations and illustrations of sympathy, and we think the author is more at home here than in any other part of his work. The nature of the inquiry is more consentaneous to the mental peculiarities of the author than the other parts of physiology. This division is terminated by a "summary conclusion" on the unity of design in the science, which is a literary curiosity. The summary consists of seven pages and a half, and seven of these (each containing more than double one of ours) are without a full stop or capital letter. We need not say what Lord Macaulay and his short-sentence imitators would think of this, for every one can judge for himself that such writing is anything but easy reading. It defies quotation; but the author allows us to see that he believes the vital principle to lie at the foundation of all the phenomena, and that it will explain *every phenomenon* of animated beings.

Our readers will be prepared for the opinion that we have formed of Dr. Payne's first part. To the student it is worse than useless, for it is ridiculously imperfect; to the experienced physician and physiologist it must be, at least, uninteresting, as containing nothing which is not well known, mixed with much that is totally unworthy of study.

In the pathological division Dr. Payne takes a rapid survey of remote and proximate causes, recommending the substitution of "pathological" for the latter, though, as now generally admitted, it would be better to discard the term altogether. He then proceeds to discuss symptoms, such as those indicated by the tongue, pulse, secretions, and excretions. Some good observations are to be found in these sections, but all tainted by the singular one-sidedness of the author. Morbid anatomy is described and despised. Inflammation is rescued from the iconoclastic hands of Andral and the French school, and is again allowed to live and burn in these pages. The author discards the notion of the importance of the exudation, and evidently thinks that changes of the solids are all in all in

this process. All the results of the minute observations of the last thirty years are either denied or ignored. As he has expelled chemistry, physics, and the microscope from physiology, so has he put them away in pathology. Yet, without them, the author appears to us all afloat, without sail or anchor, drifting on the wide ocean of pre-positive speculations, under the uncertain guidance of his vital principle. Fever and congestion are then discussed in their most general aspects, and he winds up his pathology with an energetic tilt at the humoral pathology, occupying no less than twenty-six closely printed pages. Andral has here the post of honour, and offers many pegs on which to hang a more or less pertinent observation.

We very ardently wish that Dr. Payne could have looked at the medical art and the science of life with the same calm and philosophical eye as this illustrious physician. He has known how to unite deep necroscopic study, minute, almost unrivalled, clinical inquiry, with a due attention to the chemical changes of the fluids, while his American commentator has been only able to grasp one part of his subject.

But we must not leave the impression on our reader's mind that all the errors in this voluminous work spring only from bad reasoning and a half insight into the connexions, causes, and effects of diseased processes. Errors of facts are only less obviously apparent. We will give one example:—

"There are, probably, but few ordinary morbific agents which affect the skin in its sound state, though some may which are not suspected. Cold is one of the most remarkable. There are but few of the active poisons of the materia medica that either affect this organ sensibly, or other organs sympathetically through it."

There is certainly scarcely one narcotic or sedative remedy which is not capable of affecting the system through the skin. The author admits cantharides, antimony, and, in a partial manner, mercury, to possess such power, but how poor an idea does such an enumeration give of the wide effects of almost every kind of agent, when applied to the skin. But the truth is that, even here, the author's general notion of the powers by which morbific and remedial agents operate upon the system seems to have misled him into error of fact. For such results as those just mentioned could only arise from absorption, and the author highly disapproves of absorption, Magendie, and all observers of this school.

In the extended survey of therapeutics, the author exhibits a full knowledge of the subject in many points of view,

but the taint of his peculiar doctrines is manifest on every page. Thus the physiological effects of medicinal agents on the healthy subject are considered to have but little relation to those brought about in a state of disease. That the modifying effects of disease upon remedies are highly important, is undeniable; but a thorough examination of the former has led to most valuable results, and promises much more in the hands of competent experimenters. It surely is not sufficient to say "that it may be properly known in what respect remedies are remedial; they should be studied in their morbific aspects; studied in their morbific effects upon diseased, not upon healthy conditions." According to Dr. Payne, in the treatment of disease we do but substitute one morbid action for another. Nature does the rest. There is said to be a two-fold difference between the truly morbific and remedial agents. Morbific causes make their deleterious impressions, in a general sense, more profoundly and more permanently. Positive remedial agents, in certain quantities, exert such morbid changes as are not profound, and from which the properties of life may recover, by their inherent tendency, their normal state. Secondly, the two classes of agents not only affect the vital states in different modes, according to the special virtues of each, but each establishes changes according to the existing condition of the vital states. This last difference, so far as it is intelligible, only amounts to the declaration that the two classes of agents are not identical,—that each acts after its kind,—which we shall not dispute. But, in reference to the profoundness of the change effected by morbific agents as specifically characterizing them, we take leave to differ from the writer. A drop of pure hydrocyanic acid kills with such rapidity that he denies *in toto* the possibility of absorption. Surely this is a "profound" effect produced by a remedial agent upon the economy, quicker even in its operation than the most *froudoyant* shock of the worst forms of Algide cholera. As for permanence, some of the metallic poisons seem to affect the system for an almost indefinite length of time. And the author admits that "the most violent poisons are among our best remedies." As for the permanence of morbific causes, the effects of some pass away with a rapidity unknown in materia medica. The impression of cold produces a transient chill, and may end immediately in a sneeze. The typhus odour produces a dire fever in one man, and a fleeting attack of nausea in another. Malarious emanations, so rapidly destructive under certain circumstances, and to certain individuals, under other conditions effect a permanent, but very inconsiderable

modification of the vital functions. The attempt to prove that all remedies act by producing another morbid action fails completely; and the author's opinion upon this point is the more remarkable, as he very inadequately appreciates the real nature and value of actions of substitution or derivation.

There are numerous remedies, of whose *modus operandi* we are too ignorant for us to venture upon a hypothesis of their action upon the diseased body. There are others which cannot be brought under Dr. Payne's law. If a mass of fæces becomes impacted in the colon, some very formidable symptoms are generally superinduced, all of which are safely and expeditiously got rid of by a purgative or an injection. The author would find it difficult to prove that, in either case, a morbid action is substituted for the cause of the disorders.

Dr. Payne is enamoured of the *vis medicatrix*, as we may easily imagine, but he is not satisfied with recognising gratefully the recuperative powers of the economy: he must lug into every discussion of pathological results this almost intelligent agent. Nature, it is observed, resorts to a variety of experiments in carrying out her process of cure. The principle is the same in all cases, and its details illustrate what has been hitherto so obscurely meant by the *vis medicatrix*. Whenever inflammation passes its formative stage, there is always some sensible demonstration of the *modus operandi* of this power. These visible results are of a depletory nature, like redundancies of bile, and consist of lymph, serum, pus, &c. So then we must henceforth believe that the exudation of these materials is not a part of the natural history of inflammation,—not a necessary result of the physical and vital changes of the parts involved, springing up in natural connexion and close sequence, —but the offspring of the *vis medicatrix*. If this be progress, we too must exclaim, with Cayol, that a little more of such progress will conduct medical science to zero, and the medical art to a phantasy. But why, in the name of common sense, does the author place the intervention of his *vis medicatrix* at the precise point when the formation stage is over, and the stage of exudation is about to begin? We presume that the operation of the recuperative agent is quite as manifest at the first blush of vascular excitation in the peritoneum over an ulcerated Peyer's patch, as when the stage of fibrinous effusion has arrived to thicken the membrane, and prevent the escape of the intestinal contents into the neighbouring serous sac. Nay more, for we can understand, and do actually know very much of the relation of the exudation to the previous conditions of the part, and of the relations and changes of the varieties of

exudation matter as regards each other: it is the first step of the process that must ever move our admiration and awe,—which seems to start up, as if with a final cause, direct in view, with the beneficent object of arresting effects which are yet distant. The effusions set up are often of such importance as to demand the interference of art, says Dr. Payne, whose business it is to prevent these "intangible consequences." So contradictory is the attempt to introduce the *vis medicatrix* as a substantial and intelligent principle, that we at last arrive at "intangible" consequences, in the shape of pleuritic effusions, and so forth, which elsewhere the author terms "curative."

We must give, in a few words, an outline of some of the views propounded in these pages. They are eminently original. It is averred that those practitioners who often use tonics and stimulants, have but very imperfect views in physiology and pathology, and are astray from the path of nature, because "there is nothing in the results of spontaneous changes which correspond" with those induced by these agents. Again, "no remedial agents are truly specifics," as mercurials will often fail of curing syphilis, and cinchona may exasperate an intermittent, "while blood-letting, cathartics, &c., will generally remove intermittent inflammation."

Tender allusions of a condemnatory nature are made to homœopathy; but its doctrines in pathology and therapeutics are stated to be "a thousand-fold better, more rational, more consistent, more conducive to health and to life, than any or all the tenets of the chemical and physical schools. With the one there may be a great deal of misapplied philosophy; with the other there is certainly none at all."

Cathartics are said to act by increasing peristaltic action, and increasing the products of the intestinal mucous tissue, their remote effects depending upon modifications of the nervous power corresponding with the nature of the primary impression. Absorption is omitted; and the action of croton oil, when rubbed upon the abdomen, unexplained. But we were fairly overwhelmed when we came to the statement that—"the mere purgative effect, or the evacuation of the fæcal matter, abstractedly considered, is one of the least that is exerted by cathartics." Hamilton might shake in his grave at such a heresy.

Aloes is said to influence the jejunum and ilium far more than the large intestine; and we are told, with a delightful simplicity, that there can be no sound practice till hemorrhagic effusions are recognised as the results of a secreting process.

Dr. Payne plainly fails to comprehend the remedial powers

of narcotics, which are said to be extremely deficient in curative virtues. We may exhibit opium, &c., for the relief of mere spasm of the stomach, to procure rest, &c., where no important acute disease is present; but he who should employ such agents to assuage the pain of pleuritis, enteritis, or any other active form of inflammation, and, in a general sense, in chronic forms, would either most seriously aggravate the disease, or destroy the patient. We have hitherto considered the influence of opium in acute peritonitis, connected or unconnected with perforation, of a highly curative nature. We should be sorry to treat a case without it; and all experience fortifies this view. Opium is, *par excellence*, the abdominal antiphlogistic, and gives the most powerful aid, in conjunction with other remedies, in numerous maladies of an inflammatory nature. This is not a question of authority. Dr. Payne is here opposed to the clinical experience of every practical man.

Our author does not know the difference between a direct and an indirect emetic; and is in a state of complete ignorance of the causes of strangury, after the application of a blister of cantharides. In his summary review of the *modus operandi* of remedial agents, he takes occasion to repeat "the most essential points," which are, that the vital principle is a real substantive agent, of which the vital properties, irritability, mobility, &c., are elements superadded to organic beings after the creation of their structure; that the nervous power was superadded only to the animal kingdom; that all organic functions are carried on through their instruments of action, by the four vital properties which are common to all animated beings; that all vital agents, whether stimulant or sedative, whether natural, morbific, or remedial, operate *directly upon these properties*, when the nervous power is not concerned in developing motion or changes. It is affirmed, also, that the fundamental philosophy of disease is perfectly simple, as also that which concerns its cure; that disease is essentially nothing more than a deviation *of the properties of life* from their natural standard, and a consequent corresponding change in the functions over which they preside, and that the artificial cure consists in a restoration of those properties and functions by making upon the former certain impressions which enable them to obey their natural tendency to a state of health. After this we are prepared for the author's view of the action of a seton, which we must give *in extenso*, as it is his "comprehensive example" of his general doctrines, and of the do-nothingness of absorption in particular:—

" A seton passed through the skin of the neck, then, removes inflammation of the eyes. In this instance nothing can possibly enter the circulation, but the whole influence of the seton upon the eyes must be exerted through the medium of the brain and spinal cord. In the first place, the seton establishes an inflammation in the part of the skin in which it is inserted. Here we have the whole interpretation of morbific agents in producing their primary diseases. Like the seton, all others act upon the irritability of parts to which they are applied, alter its nature, and involve the other organic properties in corresponding changes, when a change of function ensues as a consequence, and then may follow a variety of physical results. In reference to the ophthalmic inflammation, the morbid state of the skin operates as a peculiar stimulus, the result of which is transmitted to the cerebro-spinal axis, where it develops and modifies the nervous power, which is then reflected upon various parts. But the intensity of the nervous power thus developed is not sufficient to alter the organic properties of any part, excepting the susceptible ones which conduct the inflammatory affection of the eyes through their instruments of action, and, therefore, no sympathetic disease is produced. But irritability being preternaturally susceptible to the inflamed eyes, the nervous power operates with effect upon it, and alters the nature of that and other properties so as to enable them to return to their natural state, and thus the inflammation subsides. Let us now suppose that the seton is permitted to remain in the neck after it has accomplished the cure of the eyes, until it excites a severe degree of inflammation in the surrounding skin. It may then become the cause of sympathetic disease in remote parts; the patient begins to lose his appetite, the tongue coats, and other marks of a diseased state of the stomach set in. The eyes which had been relieved by the seton again become inflamed. And since nothing can have been absorbed in this case, we must look to the nervous influence for the remote development of disease, as in the former case for the curative results."

It is hardly necessary to point out errors of detail in this statement: such as, that the long preservation of a seton in the neck causes inflammation in the eyes, which is opposed to universal experience. A more important subject of observation is the total abnegation, in the statement, of the principle of substitution or derivation. There are three intelligible modes in which a seton acts for the relief of an inflamed eye, or a chronic brain disorder. The vascular excitement at first set up must have a powerfully revulsive effect upon diseases of neighbouring organs. The subsequent establishment of a pus discharge reacts favourably upon such diseases, as a derivative outflow, on the same principle as thorough and continuous purgation in similar disorders. But again, the artificial

production of a new disease in a neighbouring part probably influences the course of the natural malady on the principle that the economy does not easily support two different morbid processes at one and the same time. The artificial substitution of the one is usually followed by a marked improvement in the other, just as we see so frequently the natural cure of one disease through the medium of the spontaneous formation of another. This, at least, is certain, that the full and long-continued establishment of a discharge is necessary, in most cases, to the curative processes. And so far is it from being true *as a rule*, that such discharge is itself attended with a peculiar series of morbid phenomena, including the exacerbation of the original complaint, as imagined by the author, that one of our chief practical difficulties is the avoidance of the development of a constitutional habit, based on an undesirable over-tolerance of the remedy on the part of the system.

There is an elaborate discussion of the *modus operandi* of blood-letting, the full examination of which would occupy too much of our space. Dr. Payne here out-Herods himself. Our thoughts, we speak in sober seriousness, in reading this portion of his book, partook of the same nature as, and were scarcely less painful than, those experienced on hearing the tale of carnage of the bridge of Magenta, or the tower-capped hill of Solferino. We came with no excessive prepossession against what we felt would be the doctrines of the author in this section, for we are among those who believe that an extreme reaction has taken place against this part of the practice of our ancestors and immediate predecessors, such as is not warranted by a philosophical survey of disease, or by bed-side experience. But this work, if unhappily commonly read in this country, will almost justify such reaction, and tend to retard the recognition of wiser and more moderate doctrines. All the approved bleeders of all times, from Hippocrates to Rush, are set forth in grim array, and seem to our terrified imagination the very ghosts of departed errors,—the blood-stained gods of medical heathendom, whose doubtful laurels were won through much slaughter, —the sign-posts of a *via medica* whose directions are out of date, beyond reason, and fraught with danger. This new avatar of blood-letting is heralded with high enthusiasm. Dr. Payne could not wait until the proper section for its discussion arrived, but, in considering expectorants, he informs us that in pneumonia, we must bleed not only at the beginning, but from time to time, as returning symptoms may suggest, and that by this means we shall constantly make advances upon the disease. Sanguine(!) hopes may be called up by the great relief

which is yielded by the first outlet of blood, but we may be disappointed in a few hours by the recurrence of the formidable signs of inflammation, and we must then bleed again and again. The disease may scarcely falter under the combined effects of blood-letting, leeches, and antimonials; but this is no time for discouragement; we should rather fear that our means have not been applied in sufficient vigour.

"Now is the time, I say, to push the high principles of our noble science, to throw off the trammels of prejudice, and let the blood flow, till, by the relief it brings, we win new trophies for ourselves and for medicine."—p. 642.

We are told that all periods of life are equally under the dominion of blood-letting; that the aged and the infant are particularly benefited by this, the "remedium principale;" and the author avows that he is still apt to think, with Botalli, that "one hundred thousand men perish for the want of blood-letting, or from its not being timely employed, where one perishes from excessive bleeding, when prescribed by a physician."

Here are three of the general conclusions of the writer, who talks of forty years' experience:—That the local, and sometimes the general, abstraction of blood may be remedial when inflammation is induced by excessive blood-letting alone;—that blood-letting may be a remedy for other diseases than inflammation and fever;—that loss of blood is equally safe at all periods of life; is most indispensable, in a general sense, in old age, though not less important in many diseases of infancy.

In the Appendix the author gives us the last test of his sincerity, his own submission to the practice inculcated. The details remind us, though *longo intervallo*, of similar biographical sketches of blood-letting which we have heard from honoured lips in the class-rooms of modern Athens. In March, 1847, he was attacked with "simple pneumonia." The first remedy was the abstraction of two pounds of blood, followed by blue pill and castor-oil. Ten hours afterwards the symptoms recurred, and twenty-four ounces of blood were taken: ipecacuanha and tartarized antimony were now given, but the symptoms having recurred in twelve hours, twelve large leeches were applied, and the "bleeding maintained for several hours;" blue pill was given again, and alteratives were continued, but, the symptoms having again increased, twenty ounces of blood were withdrawn, when the "symptoms vanished entirely." On the ninth day after the last blood-letting he was able to go out. These details occur in the Appendix,

apropos of the discussion of change of type in disease. This the author directly negatives. With him blood-letting was always good, and is good now,—diseases were ever the same as at present, and required the same treatment. Neither, therefore, of the leaders of medical opinion in Edinburgh, who have so vigorously debated these questions, can claim Dr. Payne as a follower. Dr. Bennett might approve of his doctrines, but repudiate his practice. The late Dr. Alison would surely have denied the former, and given a very modified consent to the latter.

We must not tarry longer over this bulky volume. We sincerely trust our American brethren will not believe that we consider it a worthy illustration of the present state of medical science in New York, for we well know the contrary, and wish to limit our censure to the individual, though holding a high office in the University of that city. We can only conclude by observing that, though we respect the learning, the industry, and the obvious truthfulness of the author, it is, however, compulsory upon us to affirm that his writings are not worthy of the present state of science, and are tinged so deeply with prejudices, that the writer becomes confounded and the reader remains unenlightened.

A Treatise upon Penetrating Wounds of the Chest. By PATRICK FRASER, M. D., Knight of the Ancient and Most Noble Order of the Tower and Sword; Holder of the Crimean Medal, and Sebastopol Clasp, and the Turkish War Medal, for services in the Crimea; late Physician Extraordinary to her Most Faithful Majesty Queen Donna Maria of Portugal; late Staff Physician to the Army in the Crimea; Physician to the Royal Literary Fund Society; Physician to the London Dispensary; and Physician to the London Hospital. London: Churchill. 1859. 8vo, pp. 140.

IT is an old law which says that "there is but one step from the sublime to the ridiculous;" and really we can hardly withhold applying this remark to the title-page of Dr. Fraser's book. Pride in its proper place is well enough, but pride permitted to exceed the bounds of reason (we might almost say truth) becomes egregious folly, and as such do we regard this stringing together of titles, real or imaginary, as the case may be. We make the latter remark because Dr. Fraser could have held no special appointment in the Crimea as a Staff Physician to the Army, simply because there was no such grade or position. He served there as one of the ordinary members of the "Civil Ele-

ment," and upon precisely the same terms as to pay and position as every other; but was not in any way, or by any means, placed in a superior capacity to those gentlemen who were doing duty, like him, in the Military Hospitals at Scutari, the Crimea, and elsewhere; and as to being "Holder of the Crimean Medal and Sebastopol Clasp for services in the Crimea," this is all hyperbole. Dr. Fraser received the medal exactly in the same way as everybody else did who was out there, namely, because he had landed before a certain day, and it was not on account of any particular service whatever, as the title-page might lead one unacquainted to infer. His special merits, at all events, were not discovered in the Crimea, or his pretensions to distinction known to those around him. "Old Fraser," as he was familiarly termed, was generally considered a good kind of body, not very likely to set the Thames on fire, or do much benefit or harm; in fact, he placed the latter out of his reach by begging to be allowed to do duty of a kind that would not subject him to the risk of being called upon to perform any capital operation, and in this he was indulged, and cases given to him to treat suited to his nerve and abilities. These cases, Dr. Fraser says, have not been printed in "The Medical and Surgical History of the British Army in the Crimea," and he therefore feels influenced to publish them himself, and thus present them, with observations. Now, upon referring to the work in question, viz., "The Surgical History of the War," we find it explicitly stated at page 324, that the cases of gunshot wounds of the chest which are there published "were not selected with any special reference, other than for their general interest." From this we can only draw one of two deductions, either that Dr. Fraser's cases did not come under the latter category, or that they were (as he himself concludes in his preface) lost.

Dr. Fraser divides his work into sixteen chapters, four of which, according to the table of contents, purport to be devoted to the consideration of the one important point, viz., "the local and general treatment of penetrating wounds of the chest." Here then we expected to find the author's own experience clearly and explicitly set forth, but were disappointed. In place of it we have nothing but a succession of quotations from authors of every kind, medical and surgical writers of every nation and every age, modern and antique. When we tell our readers that, in forty pages we reckoned no less than sixty authorities with references to and extracts from their works, varying in length, and extending in some instances from *one to three pages*, they may conceive how much space can remain

for original observations. We have, therefore, nothing to report upon, and merely conclude our notice of Dr. Fraser's book by the quotation of his two final observations, that from these our readers may judge of the general work, and add it to their library or not, according to the opinions they may entertain as to its utility in practice. The following "physiological summary" Dr. Fraser says, will appropriately close his treatise, viz.:—

"In the human subject, as well as in animals, an actual wound of the substance of the lung is always, sooner or later, mortal, not from the effects of inflammatory action, but in recent cases from a sudden cessation of proper aëration in either the whole or portions of one or two lungs, or sudden hemorrhage.

"That if a bullet or other missile be lodged in the thoracic cavity, and has not caused instant fatal effects, and the wounded man escapes also the secondary dangers, the ball or missile will become encased by a false membrane, and may remain innocuous for years in the human body."

The first aphorism is erroneous—numbers of persons living in perfect health after having been shot through and through the lung. The second is a truism, but one certainly rather too long established to entitle it to be published as the concluding paragraph of a special treatise written in the year 1859.

De Invloed der Zenuwen op de Ontsteking Proefondervindelijk Getoetst. Door H. SNELLEN. Utrecht: P. W. Van de Weijer. 1857.

The Influence of the Nerves on Inflammation, experimentally investigated. By H. SNELLEN. Royal 8vo, pp. 34.

"IN the various theories which have been proposed to explain the process of inflammation, modified nervous action has usually occupied a more or less prominent place. In it the neuro-pathologists seek the essential principle of inflammation. In the paralysis theory[a] the modification is considered to consist in diminished action of the vaso-nerves, which is said to arise antagonistically, in consequence of irritation of the sensory nerves. The spasm theory[b], on the other hand, assigns all value to the constricted state of the vessels, produced by direct

[a] Henle, Allgemeine Anatomie. Leipzig, 1841. Page 512.
[b] Brücke, Archiv für Physiolog. Heilkunde. Bd. x., page 493.

irritation of the vaso-nerves. According to the attraction theory[a], the nerves have only a modifying influence on inflammation, which is itself regarded as an exalted metamorphosis in the tissues, with modified relation between the tissues and the blood.

" After Ludwig had established the direct influence of irritation of the nerves upon glandular secretion, nerve filaments were also sought in the other tissues, under whose influence the exudation might be produced. Thus Spiess[b], in his theory of inflammation, assumes, although quite hypothetically, the existence of filaments in the vascular walls, under the influence of which the serum is supposed to be expelled from the vessels, while an increased formation of fibrine from albumen is said to follow. This view has received important physiological support from the experiments of Axmann[c], which seem to prove that nutrition, as well as glandular secretion, is dependent on the ganglio-spinal nerves, while involuntary contraction is referrible to the ganglio-sympathetic filaments.

" The important discovery of Bernard, that dividing the trunk of the sympathetic in the neck causes paralysis of the vessels of the head, has called forth a series of investigations (Budge, Waller, Schiff, Brown-Séquard, Donders, De Ruiter, Callenfels, Kussmaul, &c.) which have had the effect of throwing much light upon the course of the vaso-nerves, and their influence on the circulation of the blood. It appears to me that these investigations also indicate the way in which the influence of nervous action on the inflammatory process must be studied. I therefore propose to trace, experimentally, the course of the inflammatory process, when some or all the nerves of a part are divided. It is, however, necessary, first, to review the several experiments which exhibit the connexion of the vaso-nerves with the normal circulation, and with nutrition. In these experiments I have directed my attention chiefly to the relation of the vaso-nerves to the sensory nerves."

Such is, in the author's words, the object of the essay before us. In the course of his inquiry, Herr Snellen has performed a series of experiments upon the ear, eye, and foot of the rabbit, of which he sums up the results in the following propositions:—

[a] Virchow, Handbuch der Spec. Path. u. Ther. Bd. i., page 67.

[b] Spiess, zur Lehre der Entzündung. 1854.—Spiess, Path. Physiol. Bd. i., page 147.

[c] Carl Axmann, Beiträge zur microscop. Anat. u. Phys. des Gangliën-Nervensystems. Berlin, 1853.

"1. Irritation of the sensory nerves produces, as a reflex phenomenon, exalted action of the vaso-nerves in the same part of the body.

"2. In the constriction of the vessels, which is produced by temporarily exalted action of the vaso-nerves, lies the source of subsequent dilatation of the same vessels.

"3. There is no reason for assuming, in the vascular wall, any other than vaso-constricting nerve-filaments.

"4. The vaso-nerves modify the metamorphosis of tissue, by determining the caliber of the vessels.

"5. The inflammatory process does not essentially consist in a modification of the nervous energy.

"6. The inflammation of the cornea, which ensues upon division of the trigeminus, is wholly of a traumatic nature, and by no means proves the nutritive influence of the Gasserian ganglion."

A Digest of the Vital Statistics of the European and Native Armies in India; interspersed with Suggestions for the Eradication and Mitigation of the preventible and avoidable Causes of Sickness and Mortality amongst imported and indigenous Troops. By Joseph Ewart, M. D., Bengal Medical Service. London: Smith and Elder. 1859. 8vo, pp. 182.

It was our duty a short time since to bring before the notice of our readers a work by Dr. Julius Jeffreys, upon "The Preservation of the British Army in India, by an appropriate clothing, housing, and locating, recreative employment, and hopeful encouragement of the Troops," a practical and very valuable book: to-day we have to record the issue from the press of a somewhat similar production, differently written, and most elaborately compiled,—a perfect epitome of statistics illustrative of the sickness and mortality of our armies in India. Some idea may be formed of the mass of evidence waded through by the author, and reduced into form, from the mention of the fact that in 182 pages no fewer than 79 tables present themselves, some of them of a kind that those only familiar with the labour of compiling details of this description can comprehend. We hail with pleasure the publication of each work of this description, because it tends to show that the mind of the profession in India is directed more and more to the consideration of the preventibility of disease amongst the guardians of our Eastern possessions. Whether in peace time or in

war, this we hold to be the grand and all-important aim. We know from experience what the future of those who have suffered from the destructive effects of inter-tropical disease usually is, and how deteriorated is the constitution of each who has even once succumbed to the fevers of the plains, with their visceral complications. Whilst saying this, we do not in any way wish to detract from the value of works written upon the cure of these too fatal maladies, but merely to state, and state strongly, our conviction that the duty as well as the interest of the Government, both in this country and in India, is to give the fullest attention to the consideration of all measures calculated for the preservation of life. We believe that there is no exaggeration in the statements first made by Dr. Ranald Martin, and followed up by Drs. Jeffreys and Ewart, that the mortality of our troops in India is capable of being most materially reduced if but ordinary attention is given to the removal of the exciting causes. Already have martinet obstinacy and military pig-headedness been made to succumb to the bidding of reason and common sense. We hear no more of pipe-clayed individuals being permitted to practise such vagaries as acclimatizing troops by drilling them in the sun; or, child-like, cherishing the idea that they were keeping up military discipline by condemning their men to support life to the last in the wearing of a form of dress calculated only (and even there unfitted) for use in a European climate. All this is over: cambric tunics and turbans have superseded coatees and shakoes upon service, and the husbanding, instead of expenditure of life, has been inculcated upon commanding officers by the issue of general orders that they themselves are forced to obey. So far, the soldier's existence has, to a certain extent, received protection, but the main point, viz., that of removing him from terrestrial influence, has not yet been acted upon. Both the works alluded to above advocate the selection for the troops of residences whose natural position is favourable to the maintenance of health. The vital importance of finding out localities salubrious and suitable for Europeans cannot well be over-rated:—

"For it may be laid down as a law that our military power in India will increase in the direct ratio of the increase of the available European population. And that this will increase with the greater salubrity of our stations, and the country generally, is clear. . . . .

"That a very considerable saving of lives can be effected in this manner is evident from the subjoined tabular statement, which shows the ratios of sickness and mortality at the different stations noted therein, amongst the Queen's and Company's European troops:—

BENGAL.

Stations.	Periods of Observation.	Treated per 100 of Strength.	Deaths per 100 of Strength.
	Years.		
Rawul Pindee,	6 ending 1854–5	182·00	2·76
Jullunder,	9 „ 1854–5[a]	163·77	2·86
Dugshai,	5 „ 1854–5	177·28	2·98
Kussowlie,	11 „ 1854–5[a]	165·86	4·12
Meerut,	9 „ 1852–3	207·59	4·12
Benares,	9 „ 1852–3	222·00	4·22
Agra,	9 „ 1852–3[a]	210·38	5·04
Chinsurah,	1826–7, and 7 ending 1837	141·29	5·08
Dum-Dum,	9 „ 1852–3[a]	202·34	5·40
Subathoo,	11 „ 1854–5[a]	178·86	5·91
Umballah,	11 „ 1855[a]	195·12	6·07
Dinapore,	9 „ 1852–3[a]	189 00	6·20
Ferozepore,	11 „ 1854–5[a]	217·51	6·34
Peshawur,	6 „ 1854–5[a]	351·92	6·51
Berhampore,	1823, and 9 ending 1834	200·01	6·88
Fort William,	9 „ 1852–3	187·50	7·00
Lahore,	9 „ 1854–5	273·79	7·54
Cawnpore,	9 „ 1852–3	267·95	7·82

[a] The year 1849-50 not included.

BOMBAY.

Kolapore,	20 ending 1849	300·34	2·05
Sholapore,	„ „	226·95	2·22
Kirkee,	„ „	177·34	2·64
Belgaum,	„ „	172·74	2·75
Punjaub Army,	„ „	197·82	2·89
Aden,	„ „	137·98	2·99
Deesa,	„ „	171·82	3·40
Ahmednuggur,	„ „	233·15	3·45
Bhooj,	„ „	209·99	3·83
Poona,	„ „	230·33	4·11
Kanark,	„ „	100·07	4·37
Mhow,	„ „	182·54	4·97
Indus Army,	„ „	155·56	7·36
Kurrachee,	„ „	208·43	9·02
Bombay and Colaba,	„ „	254·16	10·92
Hydrabad and Scinde,	„ „	369·48	23·52

" These figures are sufficient to show how many valuable lives may be saved by selecting the healthiest stations."

The work of Dr. Ewart does not pretend to originality. It is better, because facts are its foundation, and not theories, and

the ideas contained in it go only to the demonstration of the good to be effected by the adoption of measures which experience has proved to be necessary and correct. Dr. Ewart has constructed his book principally from the Bombay, Bengal, and Madras statistical returns, and the writings of Drs. Waring, Macpherson, Webb, and Moorehead,—names well known to those familiar with Indian literature,—and other acknowledged sources. In his preface he thus briefly and honestly describes his efforts, saying:—

"With such a rich supply of scattered and disconnected information, bearing most intimately upon the past and present conditions of the European and native troops of India, the author has only had to undergo the labour of collecting an important series of data, and of arranging them in such a manner as to unite comprehensiveness with simplicity and uniformity of design. In endeavouring to accomplish these objects, he ventures to hope that, though he may not have contributed anything positively original, he has, nevertheless, furnished an accessible and tangible desideratum to the medico-statistical literature of the East Indies."

Dr. Ewart has certainly done so. He has produced a book that all connected with India should read, more especially those in office, who have it in their power to carry into effect measures which policy as well as humanity most unquestionably dictates. We recommend a perusal of this work.

Gooch on some of the most important Diseases peculiar to Women; with other Papers. Prefatory Essay by Robert Ferguson, M. D., F. R. C. P., Physician Extraordinary to the Queen; Consulting Physician to King's College Hospital, &c. London: The New Sydenham Society. 1859. 8vo, pp. 235. Illustrated by woodcuts.

This is virtually a third edition of the eminently practical and useful work of the late Dr. Gooch; the Prefatory Essay of Dr. Ferguson serving to indicate the progress made in the various subjects discussed since the original publication of the book. It is not usual to review, at any length, a work that has attained a third edition; in the present instance it is not necessary, for the writings of Dr. Gooch need no commendation at our hands; we cannot, however, deny ourselves the pleasure of congratulating the profession on having such a work again placed in their hands, and of again adding our meed of praise to the New Sydenham Society for the course they are pursuing. The benefit to be derived from the circulation of such a book

as this arises not only from the soundness of its teaching, but, in a much greater degree, from the example it affords of *earnest* inquiry, of calm investigation, and of ready acceptance of the conclusions arrived at. To all, these lessons must be useful. The difficulties of breaking through routine habits of thought and of practice are immense. The danger of rashness is great, the temptation to be apathetic and indifferent, or one-sided, is still greater. In the example of Gooch, we see how these difficulties are to be overcome, and the dangers to be avoided. The readers of his Essay on Puerperal Fever, especially, will, we hope, bear the lesson in mind; for, changed in type as he found the disease, it has changed since he wrote, and shows a tendency to undergo a still further change, so that, more than ever, each case requires to be considered by itself and for itself.

The subjects treated of in the several chapters are:—1. Puerperal fever; 2. Puerperal mania, with thoughts on insanity, as an object of moral science; 3. The signs of pregnancy; 4. Polypus of the uterus; 5. Irritable uterus; 6. On some symptoms in children erroneously attributed to congestion of the brain; 7. Is the plague a contagious disease? The reasons that induced the Society to republish the work are thus stated by Dr. Ferguson in his Prefatory Essay:—

"Except where the highest principles are concerned, a decade makes the mass of scientific discoveries and opinions old. What is enunciated as, and proved to be, a truth, is rapidly absorbed into the sum of truths already secured; the labour of a life is crushed into a formula which, in proportion as it becomes current and useful, ceases to be instructive: all those fine processes by means of which the ore was extracted and minted are laid aside and forgotten. Thus it has been with the opinions of Gooch, which, by clearing away the obscurities of the subjects he has discussed, have imparted so much certainty to thought and action that we have almost ceased to be conscious of the daylight he shed on them, by reason of the very largeness and commonness of its diffusion. I conceive, therefore, that this Society has done well in putting into the hands of the student this volume, which will enable him to mark, and if possible appropriate, the methods by which a mind like Gooch's worked; thus affording him the occasion by which he in his own day may learn to co-ordinate and transmit his own experience for the benefit of others."

The general character of the book is summed up as follows, an estimate in which we fully concur:—

"The general features of the work are its pre-eminently practical character, its manly tone, devoid of trash and frippery, an

ardent love of truth, a dislike of all confident assertions, an abhorrence of all means which prostitute knowledge to notoriety or to gain.

"It is this love of truth, this necessity for clear conceptions, which make the methods adopted by Gooch in the treatment of any subject so instructive. The whole is presented to us in so lucid a form, its parts so well proportioned, that the laws by which it was developed in the master's mind run the hazard of escaping the attention of the student."

The Prefatory Essay of Dr. Ferguson forms an able and useful commentary on the several chapters. In speaking of the signs of pregnancy, the following graceful tribute is paid to the Dublin School, which, coming from the London School, and from one of Dr. Ferguson's eminence, is too gratifying to be omitted:—

"Gooch's chapter on the signs of pregnancy is as compact, clear, and practical as possible. The additions made to this subject, since it was written, are:—1. Signs derived from auscultation; 2. Signs indicated by certain chemical changes in the fluids. The latter are not of much value, and the reader will find that value discussed in Dr. Montgomery's able work on the history of Pregnancy with the sobriety and fulness which seem characteristics of the Dublin School; the works emanating from which have most deservedly placed it second to none in Europe for largeness of view and practical instruction."

A Treatise on Syphilis in New-Born Children and Infants at the Breast. By P. Diday, Surgeon to the Hospital de L'Antiquaile, Lyons. Translated by G. Whitley, M. D. London: The New Sydenham Society. 1859. Pp. 272.

Much has been written on syphilis; from the goodly-sized tome down to the modest, unassuming pamphlet, enough has been issued from the press to fill any of our largest libraries, and yet much remains to be written on this self-same subject, largely as it appears to have been discussed. And still the disease appears to be unexhausted and inexhaustible. A writer appears on the stage who seems to have probed its history in every direction to its uttermost depths, and yet, Antæus-like, it emerges from this searching examination with renewed vigour, presenting other phases, calling for the labours and researches of another generation of authors; new facts are elicited, new theories broached, and still we seem as far as ever from the desired goal. Much good service has been rendered in the

cause; but, as we have stated before, the subject is not exhausted; and we may go a step further and state that, in our opinion, it is inexhaustible.

For the work before us we are indebted to the enterprise of a Society recently founded on the model of one which has already done good service to the cause of medical science, by the reproduction of some of the most important and valuable contributions to the literature of our profession; and, in starting with the work at present under consideration, we must state it as our opinion, that the New Sydenham Society here has given us good earnest of the future volumes that they propose to give their subscribers; for we must unhesitatingly rank this work of M. Diday's amongst the most important that has issued from the press of any country for many years past. Without further preface then, we shall endeavour to give our readers some idea of the task undertaken by its learned author, and the manner in which he has executed it.

M. Diday, Surgeon to the Hospital de L'Antiquaile, in Lyons, originally produced his work in the French language, and has been fortunate in securing the good offices of an able translator, in the person of Dr. Whitley, who has evidently brought to his task a thorough knowledge of the language in which the author originally wrote, and a fine literary taste, leaving his readers nothing further to wish for in these respects. The work itself is divided into five parts, each part divided into chapters in which the special subjects of each part are fully investigated. The first part embraces the etiology of infantile syphilis; the second, the description; the third, the prognosis; the fourth, the medico-legal bearings; and the fifth, the treatment of this most important disease. The whole is preceded by an introduction, in which M. Diday indicates the objects that he had in view in undertaking the work, and explains its plan; and, in addition, the author favours us with a preface to the English translation, in which he pays a handsome, but, at the same time well-merited, tribute, to the specialist writers of Great Britain, to whom he acknowledges the obligations he is under for the theoretic generalizations and clinical records, in which his work is so rich.

That this tribute to the labours of the specialist writers of Great Britain is but what they merit, we willingly acknowledge; and we are proud to have it in our power to claim for Irish literature more than its fair proportion in the share it has contributed to this department of medical science: the names of Ally, Moriarty, Wallace, Hewson, Beatty, Carmichael, and Colles in former days, and, in our own times, Egan, Labatt (to

whose valuable work we shall have occasion further on in these remarks again to refer), and Porter, with many others, fully justify this statement. Any one at all conversant with the literature of our profession must acknowledge the great boons conferred on humanity by the labours of these writers, and must gladly recognise the light, which, on a confessedly obscure subject,—the improvements effected in the treatment of a disease acknowledged amongst the most formidable, and in its results the most painful, that the human subject is liable,—has been thrown by their pens; and we feel that we would be guilty of great injustice to one who has already distinguished himself in other branches of our profession, and, at the same time, be doing our readers a positive disservice, did we not here, publicly, acknowledge the deep debt due to Professor Porter by our professional brethren, for his most instructive, and, at the same time, most classical essays on this subject, which so recently appeared from his pen in the pages of this Journal; essays that evince, on the part of the writer, consummate ability, sound judgment, and rare powers of philosophical investigation; essays that hereafter must hold the highest position in the estimation of subsequent writers on the subject, and without a perusal and study of which, no person should venture to express an opinion on the difficult subject of which they treat.

M. Diday commences his work with a short historical resumè of the subject,—an introduction far too short, in our minds, to do adequate justice to the memories of those who had successfully laboured in this department. It would have been fairer either to have omitted it altogether, or to have extended it to such a length as to permit of his having referred more in detail to the share which each person had contributed in establishing the facts, on which his own valuable superstructure has been erected. We allude here, more especially, to the share taken by the late Dr. Beatty, of this city, in establishing, incontestibly, the important influences exercised by diseased parents over their offspring. Other writers had preceded him in making allusions to the subject; but we feel that the just merit is due to him of reducing these scattered facts to the elucidation of a great law, the truth of which is now universally acknowledged, and therefore we feel ourselves justified in asserting that no bibliography of the subject can be considered as complete where his name has been omitted.

The next subject which engages his attention is the period at and the manner in which infection can be communicated to the yet unborn child; and the first problem which he considers

is, whether the father alone being syphilitic, can he communicate the disease to the child? This question, in our opinion, the author has properly answered in the affirmative. He quotes many cases to support his views; and at the present moment one occurs to our own mind, where a young gentleman who had contracted syphilis many years ago had secondary symptoms, and, believing himself to be cured, married, has had two decidedly syphilitic children, without the wife manifesting any constitutional symptoms whatsoever. That such cases are rare, we are free to admit; but that they do occur, we must agree with M. Diday.

The next problem is to this effect—Will a man who has had syphilis, but who presents no symptoms of the disease at the moment, beget a syphilitic child? This, which is one of the most important problems in the entire work, inasmuch as it involves the grand question of whether the recently diseased man, now apparently cured, is justified in contracting a matrimonial alliance, has scarcely had that justice done it that its importance demands, or that the great ability manifested by the author in other parts of his work would lead us to expect. In no other question in the book is involved so much of the happiness of families or of the character of the physician; and one of the cases used to illustrate his views on the subject we shall have to claim hereafter in support of some ideas of our own, with the truth of which we have been long impressed, and which in the course of this review we shall venture to lay before our readers. In considering this problem he also introduces the consideration of another—one first started by Hunter, and since his time entertained by other authors, viz., whether a man who is affected by syphilis, and has connexion with a pregnant woman, can communicate the disease directly to the fœtus, without infecting the mother? This question M. Diday seems inclined to answer in the affirmative; and he supports his views by a case which he quotes from M. Albers, where a man affected with primary syphilis had connexion with his wife in the seventh month of her pregnancy. She escaped infection, but at the full time gave birth to a syphilitic child.

The influence of the mother is considered under two heads: first, as it affects the future offspring when the mother is infected before conception; second, after conception. The first of these sources of disease is so generally recognised and admitted, that we could anticipate but little new here; and yet the author has supplied us with much that is not only interesting, but also most important for us to study and to know. To establish the truth of this position, M. Diday goes far beyond

what is generally considered necessary to prove his views. He is not satisfied with those cases where a woman who has been infected by her first husband, becoming a widow, marries a second husband free from syphilitic taint, and to him bears syphilitic children. As in these cases the disease may be attributed to the influence of the first husband remaining in the organism of the wife. No; he goes further: he takes the case of a woman infected through the medium of a diseased nurseling, proving pregnant to her husband, free from all suspicion of such disease, and having a syphilitic child. Many of such unfortunate cases are recorded; and thus is unequivocally established the fact that such can take place; and the infection is thus clearly traced home to the influence of the diseased mother alone.

The question of the influence of the mother when infected after conception is most properly summed up in a few words; as, now-a-days, we believe that no person whose opinion would have any weight is to be found questioning its materiality. But the question, "Up to what period of pregnancy can syphilis, then first contracted by the mother, be communicated to the fœtus?" is fully entered on. Two distinct stages are considered: the first involving the earlier; the second, the later periods of pregnancy. In considering the first of these two conditions, the author expresses himself as being of opinion that if a woman, within a few days after conception, contracted syphilis, and was speedily cured, the child subsequently born would not show any symptoms of the disease. True, that he only states this as a speculative opinion, unsupported by any facts; and it is a case not likely ever to be submitted to the *experimentum crucis*. Still, granting that such a case arose, we cannot see what it proves. According to the received opinions, the ovum, though impregnated, is still an absolute portion of the mother's existence, dependent on it for support to the very fullest extent as much as one of her cervical or inguinal glands, and possessed as yet of no independent vitality. Why should it be more exempt from the curative influence of remedial agents than either of the said glands? These, however, are but speculative questions; that in relation to the later periods of pregnancy unfortunately is not so; and M. Diday, in our opinion, has erred here, in giving his adherence to the views of the learned Ricord, in stating that the last three months of pregnancy are more or less exempt from such influences. In our opinion they are not so. Numerous cases with which we are familiar justify us in expressing this opinion; but we prefer adducing one of the cases that he brings forward

to support his view, to substantiate that which we are inclined to look on as the more correct solution of the problem. We allude to his own case of Madame B., who was infected in the *seventh* month of pregnancy, and gave birth, at the full period, to an infected child, which, in spite of most active treatment, died at the end of five months, of unmistakeable specific disease.

In the third section of this chapter we have discussed the effect produced on the offspring by the combined influence of both parents being diseased. This hitherto has been summarily disposed of by the dictum that in this case the fœtus has no chance of escaping infection. To this sweeping condemnation M. Diday has, in our opinion, most properly taken many exceptions. The question of the immunity conferred by one healthy parent, as originally started by Ricord, is fairly considered; but the point to which we would more particularly wish to direct our readers' attention, and indeed that of M. Diday, is involved in one brief sentence. When talking of the curious fact that it has long been observed that in a family where one only of the parents is syphilitic, all the children are not born with the disease, he expresses himself in these terms:— "Is it that at the moment of conception the diathesis slumbered in the individual in question? or is it rather that the influence of the healthy individual corrected the morbific influence inherent in the other?" This is, in our opinion, one of the most important problems connected with this very obscure disease,—one on which, long before M. Diday had written these lines, we had reflected profoundly: and to the solution of which we have felt ourselves irresistibly impelled by many facts to venture to offer an explanation hitherto, as far as we know, new to our profession. Some years past we ventured to propound them to Professor Faye; and, encouraged by his opinion, again and again have we sought for and obtained proof confirmatory of the opinion that it does slumber, and that the very condition hypothetically put forward by M. Diday has truth for its foundation, and that this disease, like many others, is intermittent in its type.

The first case that suggested this idea to our minds occurred many years ago: a man in a respectable walk of life consulted us about some syphilitic symptoms that he had, of tertiary character; in the conversation, it came out that his wife had had repeated miscarriages, and that she was now in her seventh month of pregnancy, and that they both feared a similar termination to this pregnancy. In compliance with our request,

she was brought to us, and, on representation, agreed to go under mercury; but to no use, as she had, at the full period, a putrid child. Both parents were now put under an efficient course of mercury, kept separate beds (the actual position of affairs having been placed fairly before them), and after a three months' persistence in this plan of treatment, were allowed to resume conjugal relations,—the result of which was, in due course, a healthy child, which continues so to this day (now nearly six years). Subsequently, the woman again proves pregnant, has a putrid child, and again proves pregnant, and has a baby that, as far as appearances go, is perfectly free from syphilic taint, and one of the healthiest children that could be found any where. In the case of the first healthy child, the protective influence of the mercury may be alleged; but in the subsequent cases, where no mercury had been given, how are the facts to be explained? besides which, both parties had been treated, before they came under our care, by a most experienced surgeon, who on previous occasions had mercurialized them, and still they had pocky children. We confess that this case made a profound impression on us. Again, we had under our care a gentleman who some fourteen years ago contracted venereal, and in whose case the sequelæ were of the most inveterate and melancholy character. As the result of sexual congress he had two children,—one healthy, the other pocky; and between the periods of his successive attacks his health was of the most desirable character. Other cases we might instance; but we feel that if these do not convey and substantiate our view, further narration would be useless. We have great pleasure, however, in being able to support them by some observations of Mr. H. Labatt, in his most valuable work on Venereal Diseases; in it we find the following remarkable passage bearing on our views, and for the reproduction of which we feel that no apology is due to our readers:—

"It usually occurs that when a series of miscarriages and births of children, who subsequently display syphilitic symptoms, takes place in the instance of the same mother, each case presents the disease in a more mitigated form than the previous one. This, however, is not always so. We have reason even to suppose that in the course of these accidents an interruption, as it were, may take place in the manifestation of these morbid phenomena, and the disease reappear at subsequent births without any assignable cause. The following case will illustrate this; I found it amongst the papers of my late father, whose long and distinguished professional career does not require my

feeble eulogy. The case is also interesting as setting forth the views of a late most eminent surgeon who was called in for consultation :—

" ' In the summer of 1805 I attended during her confinement the wife of a respectable shopkeeper, when she gave birth to a full-grown, healthy-looking child, which appeared to thrive on the mother's nursing for ten or eleven days. I then ceased to attend, leaving both in good health apparently. In a few days after, the nursetender called to inform me that the lady became very unhappy, as the child had been very ill since my last visit with a bowel complaint, and 'an ugly red gum,' as she called it. I was greatly struck with the appearance of the child. I had left it a very few days before, a healthy, ruddy, and well-nourished child, as I thought, and now found it greatly emaciated, pale, languid, with a hoarse squeaking cry, and very restless. I observed also copper-coloured blotches over the parts about the genitals. Apprehending that those appearances were from a syphilitic taint, I requested that a surgeon should be immediately called in to see the child, and Mr. Solomon Richards, on seeing the case, confirmed my suspicions. The poor little sufferer died in a few days." The father told me that he had syphilis two years before marriage; but, having undergone a course of mercury, he was pronounced sound by a skilful surgeon. I requested another meeting with Mr. Richards, to take into consideration the propriety of submitting the parties to a course of mercury. Mr. Richards, however, being unable to detect any trace of syphilis in either, objected to mercury, saying that ' latent syphilis,' as he termed it, would not be eradicated by mercury. The lady soon became pregnant again, and about the seventh month was seized with labour without any apparent cause, and was delivered of a putrid child. On this occasion I urged the necessity of a mercurial course, but it was resisted on the authority of Mr. Richards, who had previously stated that he had known some cases of the kind, in which the venereal taint had worn itself out, and the parents afterwards had healthy children, without the aid of medicine; and his prediction was verified in this case, for the lady, although she gave birth to four pocky children, had the good fortune to bring forth five healthy ones. Of nine pregnancies, the result of the first and second I have mentioned ; the third was an early miscarriage; the fourth and fifth arrived at the full time; the infants were born alive, and never exhibited any appearance of disease; the sixth was delivered dead and putrid in the country at the sixth or seventh month; the seventh, eighth, and ninth were born alive, and

went through the periods of infancy and boyhood free from any trace of disease.'"

That this view, which we venture here to put forward, is the true explanation of the case of Mr. D., recorded in page 17 of M. Diday's work, is our deliberate opinion.

Many other of the etiological points in M. Diday's work we would wish more particularly to allude to, but the limits which have been assigned to this article warn us to hurry on. We would wish, however, particularly to draw the reader's attention to that portion of the work in which he treats of the medico-legal bearings of the subject; these concern every medical man who has a character to sustain, and who would wish to acquit himself with credit, under some of the most trying conditions in which he may be placed. We most cordially recommend them to the careful perusal of every one who desires to uphold his own position, and that of the profession to which he belongs. One passage we must extract for our readers' perusal and benefit, as bearing on more than the question at issue; in giving evidence in a court of law, we have long felt it to be a monstrous doctrine that the "expert" should be constrained into giving a simple answer in the negative or affirmative to the question asked. We agree with M. Diday that he should be more regarded in the light of a medical judge than of a witness, perfectly unbiassed on either side,—as the medical witness, who respects himself and the profession to which he has the honour to belong, ought to be, whose opinion should be regarded more in the light of a judgment than of evidence. How difficult it is to explain to the *profanum vulgus* the data on which we ground this opinion,—the result, probably, having been arrived at by a life time of slavery devoted to the subject,—no one can be more keenly alive to than the medical witness; it has taken him years of observation to arrive at the instinctive knowledge, the power of appreciating (when summed together) "trifles light as air," as being confirmation "strong as proof of Holy Writ;" and yet he is expected to leave all this important evidence, conclusive to an educated one, to be decided upon by the unaided powers of a mind, acute, indeed, in other respects, but feeble as a child's in coming to a proper conclusion on the case under consideration. These are the remarks to which we refer:—

"But if the obligation to be truthful be not a duty of which it is very necesssary to remind medical men worthy of that name, there is another which the law imposes on them, and which they are only too much inclined to elude; I mean the obligation of expressing to the magistrates their opinion, such as they have formed it for them-

selves from the investigation of all the *pathological* circumstances of the facts of the case. Many experts are content to enumerate the elements upon which the conviction of the tribunal may be founded, and leave to it the duty of drawing the necessary conclusions. 'Their mission, they say, is to enlighten the judges, not to put themselves in their place.' They thus escape the embarrassment into which they are brought in these cases by the difficulty of the scientific problem and the influence of their relations with their patients.

"This is not the view which I take of the duties of the medical man. Justice does not call him in merely as a witness. By associating him with herself as an adviser, she transfers to him a portion of her attributes. She gives into our hands some part of that sacred mandate which commands respect for her decrees, and insures for her researches the aid of all well-disposed persons. We are bound, then, to communicate without reserve all that may facilitate her legitimate endeavours to ascertain the truth.

"But if we are consulted, it is not for the purpose of diagnosing syphilitic lesions; nor to decide whether they have commenced earlier in the child or in the nurse; nor to rake up the antecedents of one party or the other; nor to decide whether a given symptom was transmissible or not, at a given period, &c. These points are no doubt of importance; but, in the first place, some of them require only a purely material verification. Then, of those which are of more weight to decide the point at issue in any way, there is not one, as we have just seen, to which a different interpretation (which each theory vies in declaring to be the only true one) may not very frequently impart an opposite character.

"Is it for the magistrate to thread this labyrinth of hypotheses? Is it his duty—an observed fact and a simple possibility being given—to estimate the amount of probability to be assigned to each, in the midst of the obscurities of scientific controversy, and the exaggerations of opposed pleadings? No; this task falls upon the medical man—first, because it is intrusted to him, and further because he is the sole person capable of performing it well. By declining it, wholly or in part, he would betray the ends both of justice and of science; for he would refuse the first the means of repairing an injury, and the second would certainly lose in consideration of his reserve, which would be stigmatised, at the least, as incapacity, if not as reprehensible calculation.

"I do not wish to deprive the expert, on that account, of the right of doubting and of expressing his doubts plainly, when the details of the case have not enabled him to form a decided opinion *pro* or *contra*. But I wish to remind him that, whether uncertain or fixed, favourable to the parents or the nurse, appealing to the future or affirmative already, his view, whatever it may be, belongs to justice and ought to be made known to the tribunal. Van Swieten has written: 'Ut famæ ægrotantium consuletur, videntur medici, prudenti consilio, hanc causam tanquam probabilem in medio relinquisse. Sufficit enim medico luem presentem cognoscere et cog-

nitam curare.' I protest against such a programme of the duties of the medical man, if it were wished to make it his rule of conduct in a court of justice; and I conclude by declaring that, whenever his opinion is asked judicially in a similar case, he ought to give the judges who interrogate him, not only the reasons upon which any opinion of his may be based, but also his personal opinion, as explicitly as as it has been formed in his own mind."

Under the head of treatment, M. Diday gives his opinion as to the manner in which the examination of a wet nurse should be conducted. This is a most important subject,—the careful examination of the person who is to usurp the duties of the mother, following, as a necessary corollary, to what has appeared in the previous pages; the fact being undoubted, that, in a variety of ways, infection can be communicated to a previously healthy child, from a disordered nurse, a grave responsibility falls on the medical man who sanctions her employment; and equally grave must be the censure to which he is liable, should the infant contract disease from the source to which he was to look for health and security. These are M. Diday's views:—

"A child born healthy, of healthy parents, cannot, I will assume, be suckled by its mother. How are we to proceed to prevent the nurse to whom it is intrusted from communicating the venereal disease to it?

"This danger, it must be confessed, is not sufficiently taken into account by people of the world. In spite of repeated distressing occurrences, the medical man is much too rarely asked to give an opinion as to the *special* state of health in the nurse. Satisfied with her good looks, her simplicity, which is sometimes affected, and the rusticity of her accompaniments, the father intrusts the fate of his child to her without inquiry; and of the questions addressed to her concerning her antecedents, the most important is certainly the last to be thought of.

"The reserve of families on this point is further sufficiently explained by a very natural feeling of delicacy. But what is to be said of the medical man (and there are many such) who omits to include in the examination required of him, the careful inspection of the genital organs of the future nurse? It is, in my opinion, an unpardonable omission: no extraneous consideration, no certificate of morality, should exempt the woman from this ordeal; and one who took offence at finding herself subjected to it would be precisely one in whom I should carry it out with the most distrust and with the greatest care. On exploring the vulva and neck of the womb, the anus, the groins, the nape of the neck, and the back of the mouth, accusatory signs or vestiges of a past or present infection will sometimes be found, and their absence, if verified, will, on the contrary,

be one of the most reassuring guarantees for the future of her foster-child. But these are not all the precautions required, and we must be careful not to draw too hasty a conclusion."

The views so ably put forward by Professor Porter in his admirable essays already alluded to in this article, as to the propriety of employing mercury in the treatment of syphilis in patients with the strumous diathesis, are fully borne out by M. Diday,—indeed, the language employed by both these distinguished authors is almost so identical, that we should have imagined them to have appeared from the same pen, and not to have been written by authors in different countries, independently of each other. Having had the great advantage of following Professor Porter's clinique, we are in a position to verify his statements in those particulars, and it is gratifying to us to find his opinions on this *quæstio vexatio* supported by so able an authority as M. Diday.

In the appendix to the work we find some few formularies given us, more, we should imagine, with a view to indicate the ingredients contained in formularies not generally known to the profession, than with any idea of furnishing us with a complete repertoire of infantile syphilitic therapeutics. That this was the intention of the author, we take for granted; otherwise it would have become our unpleasant duty to comment upon them in no measured terms.

In conclusion we have this pleasing duty to discharge, to recommend M. Diday's work to our readers' notice, as being by far the very best work on its subject it has ever been our good fortune to meet with; to congratulate the Society on its very happy selection of the book with which it has made its debut; and to felicitate both the author and the Council of the Society on the very able translator they were fortunate enough to obtain in the person of Dr. Whitley.

The Surgeon's Vade Mecum: a Manual of Modern Surgery. By ROBERT DRUITT, Licentiate of the Royal College of Physicians of London, &c. London: Renshaw and Churchill, 1859. Eighth Edition. Much improved, and illustrated by 328 highly finished Wood Engravings. Fcap. 8vo, pp. 791.

WE cannot refrain from calling the attention of our readers to the publication, just as we were going to press, of this new edition of Dr. Druitt's most excellent treatise on Surgery. Unlike

the majority of authors whose books have gone through many editions, he is not satisfied with issuing merely a reprint of the volume, but he has carefully revised the whole, and made numerous additions of much importance. For example, a new chapter on Inflammation has been added; that on Gun-shot Wounds has been written afresh, from the experience of our military surgeons in the late wars; that on the Eye has been most carefully revised by Mr. Haynes Walton; and in the chapter on the Excision of Joints the information is of the latest, due justice being awarded to our own able contributor, Mr. Butcher. In a word, this eighth edition of Dr. Druitt's Manual of Surgery is all that the surgical student or practitioner could desire.

A System of Surgery, Pathological, Diagnostic, Therapeutic, and Operative. By Samuel D. Gross, M. D., Professor of Surgery in the Jefferson Medical College of Philadelphia, &c. Illustrated by 936 Engravings. Philadelphia: Blanchard and Lea, 1859. 2 vols. 8vo, pp. 1162 and 1198.

Certainly our American brethren are fast wiping off the reproach under which they so long laboured, of having no medical literature of their own; and if we are to judge, not alone from the number, but from the *size* of the books which have recently issued from the United States press, we may reasonably hope that ere long they will leave no room on their library shelves for reprints of our publications: and thus what we have always regarded as a great disgrace and reproach to the medical profession at the other side of the Atlantic—an opinion in which we know that the author of the two splendid volumes now before us concurs—will be removed. Of Dr. Gross' treatise on Surgery we can say no more than that it is the most elaborate and complete work on this branch of the healing art which has ever been published in any country. A systematic work, it admits of no analytical review; but, did our space permit, we should gladly give some extracts from it, to enable our readers to judge of the classical style of the author, and the exhausting way in which each subject is treated.

PART III.

MEDICAL MISCELLANY.

TRANSACTIONS OF THE BELFAST MEDICAL SOCIETY.

SESSION 1858–59.

(*Continued from* vol. xxv. p. 485.)

FEBRUARY 7, 1859.

MR. BROWNE, R. N., PRESIDENT, in the Chair.

DR. HARKIN read the following paper on *Mastitis* and its treatment.

"The *Female Breast* in the virgin state, like the unimpregnated uterus, is not, to any remarkable extent, obnoxious to disease. No sooner, however, does the important process of utero-gestation commence, than, consentaneously with its initiation, does this delicate organ prepare to fulfil its peculiar duties: it ceases to be merely an ornamental appendage to the female bust, and becomes at once very liable to functional and organic disease.

"Soon after conception the gland begins to increase in size; fat is freely deposited between the digitations of the enveloping fasciæ; the hemisphere of the mamma begins to rise from the bosom; the nipple becomes protuberant; the areola enlarges and deepens in colour; nervous sensibility is greatly augmented; the mammary arteries increase in volume; the acini or secreting granules acquire a marked development; a milky fluid distends the lactiferous ducts; and long before the termination of utero-gestation, the organ in question gives indications of vigour and ability. With this augmented nervous and vascular development, the breast is naturally more prone to the incursions of disease. It is not, however, until about seven hours after delivery that the gland reaches its highest state of engorgement and distention, and, just as the child is transferred from the cavity of the uterus to the breast of the mother, so, by a sort of metastatic process the vital energy of the now contracted uterus appears to be precipitated upon this hitherto (at least in first labours) untried organ.

"Under such circumstances, it need not surprise us that tension, pain, followed by rigors and sympathetic fever, should arise, constituting ephemera, or milk fever, which usually terminates in twenty-four hours by a free perspiration. If, however, the vascular excitement should be very considerable, or any predisposing cause pre-exist, the areolar tissue, or the substance of the mammary gland itself, may inflame, and give rise to dangerous and even fatal results.

"If we discover, then, on closer observation, that the symptoms of constitutional irritation have not subsided within a period of twenty or twenty-four hours after the first rigor; if the breast presents a hard tumour, hot to the feel, and tender to the touch; if the pain extend to the axilla, and the secretion of milk be suspended, we may feel satisfied that inflammation of the mamma, or mastitis, as it is technically called, has set in.

"The type of inflammation is usually of the sthenic form, and the mildness or severity of the symptoms depends in a great degree upon the temperament, and also upon the seat of the inflammation, whether it be simply in the areolar tissue, or in the gland or surrounding fasciæ. Sir Astley Cooper enumerates three stages—the adhesive, the suppurative, and the ulcerative. The first continues for about four days, and is marked by swelling, pain, and the effusion of lymph; the second continues for ten days or a fortnight; in that period the skin assumes a blush on its surface, fluctuation is felt, and suppuration is established. In the third, ulceration takes place, and the matter is discharged, and its duration is very variable, depending upon the situation of the abscess, and the severity, or otherwise, of the inflammation.

"I have been thus particular in recalling to your recollection the different stages of the disease, as it is in the first alone that the simple mode of treatment which I mean to submit to your notice to-night has, in my experience, been almost uniformly successful. Before I come to that point, however, permit me to allude to the plan of treatment in general use, or rather to the absence of any systematic plan, the consequences of which are those extensive suppurations, sinuses, sloughings, hectic fever, and occasionally death from debility, or the absorption of pus into the circulating system, which we occasionally see. In many cases, no doubt, the patient passes through the curative stage in the hands merely of the monthly nurse, who applies some specific of her own, and often hopes to remove all inflammation by active friction of some stimulating liniment, or, taking an opposite view, endeavours to keep down acute disease, and restore the secretion by the application of saturnine lotions, and the practice of pumping and drawing the breast. Failing in this, the medical attendant is called in; he applies leeches, poultices, hot stupes, or cold, as may occur to him; gives purgatives, opiates, suspends the breast, but in vain, for the second stage has come on, and the third, if the lancet be not used, is unavoidable. He has, no doubt, treated the affection more scientifically, but the

result is the same; and, having failed, disappointment and irritation in the family are the result, and even blame to the well-meaning practitioner. I speak of what I have seen, and what, no doubt, every practitioner has witnessed. It is strange how unwisely some medical men, well informed upon every other subject, will act when treating a case of mammary inflammation. I have just terminated an attendance of six weeks upon a lady, now in the fifth month of pregnancy, in whom there were at once seven abscesses, distinct from one another, with large sinuses as well, all which might have been prevented by proper care on the part of her medical attendant at the period of weaning. It is not long since I had to visit a female in the country, whose medical adviser was applying sugar of lead in solution to prevent suppuration, and who, on introducing a lancet at my instance, drew off more than a pint of matter quite green in colour, and evidently lying there for many days. Later still, a lady consulted me, whose medical attendant, otherwise a very able young man, persisted in using the breast-pump every day until he brought away pure blood, hoping by this means to restore the secretion, when, in reality, suppuration was established, and the introduction of a lancet set free a large collection of pus. If we look to medical writers for instruction, the highest obstetric authorities afford us very little information, and the variety of remedies which they suggest is in itself an evidence of uncertainty and doubt. Dewees recommends stuping with vinegar for twenty-four hours; this failing, leeches. Burns says: 'It is very difficult to prevent suppuration; it is to be attempted, however, by purgatives, tepid poultices of bread and milk, or cloths moistened with tepid water; gentle friction with warm oil.' He condemns cold solutions of acetate of lead, alone, or preceded by leeches, recommends the breast to be supported, and has not had any experience of the internal exhibition of tartar emetic; recommends warm poultices in advanced stages, and evacuation by lancet.' Ramsbottom says: 'Leeches must be had recourse to, and repeated as often as occasion may require; brisk purgatives are exhibited, poultices, and warm fomentations, and the use of the lancet when the abscess points. He says the child should be applied before suppuration even with more assiduity to the affected side than to the other, and, failing this, the pump or the breast-pipe.' Drs. Hardy and M'Clintock allude to the advantage derived from the use of tartar-emetic: where the breasts have been distended for the first time; they say: 'This painful state is best relieved by rubbing the breast very well with warm oil; and if any febrile excitement attend, small and frequently repeated doses of tartar-emetic are given, and the bowels freed. In treating the abscess, poultices, warm spirit dressings, and strapping, as in hernia humoralis.'

"And this, in fact, is the sum of the treatment recommended by our obstetrical celebrities; they advise, without much confidence, leeches, venesection, warm applications, cold lotions, stupes, poultices, purgatives, straps for support; and, when the usual ter-

mination arrives, the use of the lancet. These remedies are, in my mind, only adjuncts in the treatment; they should never be elevated to the position given them; they are only capable of relieving symptoms, with, perhaps, the exception of venesection (not admissible in every case); and they cannot ever influence to a sufficient extent the derangement of vital energy which, in reality, constitutes inflammation. No doubt, saturnine lotions may diminish the redness and heat, warm stupes relieve the painful tension, and leeches, if repeated, may partially relieve congestion, although it is well known that their frequent application to the breast in amenorrhœa produces in a short time great congestion and enlargement of that organ, with the establishment of the menstrual discharge. Yet, while the attendants are hoping that the disease is checked from the apparent decline of those symptoms, inflammation is steadily pursuing its course, structural alteration succeeds to functional derangement, and abscess and ulceration are the natural results.

"While denying the utility of the above-mentioned remedies, I cannot sufficiently reprehend the use of the breast-pump and tubes, so much relied on by some practitioners. I cannot understand how by mechanical means we can hope to restore secretion to a gland in the state of inflammation; the return of the lacteal secretion is an indication, or rather an accompaniment, of cure; but they gravely err who, in this case, mistake the effect for the cause; suspended secretion can only return after the subsidence of inflammation, yet many regard its suspension as the cause of the inflammation. Suspended secretion, however, like redness, heat, and pain, is very useful in directing our attention to the seat and progress of the disease. If we had a patient suffering from inflamed kidneys, with scanty urine, and, perhaps, peritoneal effusion, what but a false pathology could induce us to rely principally upon stimulant diuretics and hydragogue purgatives, overlooking altogether the changes in structure of the secreting organ; and yet it is not more false in theory or in practice to hope to restore the healthy state of the mamma by this strange application of hydraulic powers?

"The mode of treatment which I propose to recommend, and which, within the limit of the first or adhesive stage, has almost uniformly proved successful, occurred to me in this way. I had a patient recently delivered of twins; she was of a very full, plethoric habit, and about four or five days after delivery presented all the marks of mastitis in a very violent form. The secretion was completely suspended, and there were present all the symptoms of great constitutional excitement. I felt that something decisive must be done, and that the ordinary *dilettante* plan would *not* do; I was averse to bleeding from the arms; and having observed the powerful effect of tartarized antimony in the treatment of orchitis, a gland of similar nature and organization, I resolved to give it a fair trial. It was administered in half-grain doses; and this was continued until it produced its full effect, nausea for several hours, free vomiting, moderate purging and diaphoresis. When visiting the patient twelve hours after, I was agreeably

surprised to find the pain and swelling gone, the pulse restored to the natural standard, all headach and constitutional symptoms removed, and the breast pouring out the lacteal fluid. I should mention that along with this I caused her breast to be stuped with flannel wrung out of hot water every half hour for twelve hours, and every time covered over with a small wooden bowl, previously heated in hot water. The second case in which I tried it was equally successful, but with this unpleasant result, that the child, then a few days old, after partaking of the mother's milk, took convulsions and died, whether *post hoc* or *propter hoc*, I could not then say; but since that time I have been particular in directing that the first secretion of milk, after taking the tartarized antimony, shall be withdrawn, and the breast thoroughly emptied before it is restored to the infant. Facts are wanting upon the subject of the absorption and detection of active medical or chemical agents in the lacteal secretion. The science of Toxicology has done a certain amount of good in this way, and will probably further elucidate the subject; but, so far, an interesting field of observation is open to us. In reference to this point, however, I have had great difficulty in restraining mothers from yielding to the importunity of the infant. In many cases they have given the breast to the child with perfect impunity; but in others, free purging and vomiting, without any fatal effects, were the results. The usual formula I prescribed was four grains of tartrate of antimony dissolved in four ounces of camphor mixture, of which a tablespoonful was administered every fifteen minutes till vomiting was induced. This was usually more than sufficient for the purpose; but I have had occasionally, in peculiar constitutions, to give at least eight grains of the salt before any appreciable effect on the stomach was produced. It is well known what resistance disease offers to medicine, and that remedies which, in a healthy state, would prove injurious, in disease act a salutary part. For this reason I have never yet met a case of mastitis, in which tartar-emetic was contra-indicated, or in which it was productive of injury. I have even given it after weaning, when pregnancy was coexistent, without any bad result following; the mother having been ignorant of the fact, or having concealed it from me.

"Fully eighteen years have passed since I first adopted this practice; and although I cannot even guess at the number of cases I have successfully treated, yet having had charge of the cases arising from more than 1200 labours, which I have since that time conducted, I can speak with the confidence that experience has given me.

"Within the limit of four days, then, after the onset of mastitis, that is, during the adhesive stage, I have scarcely ever failed in bringing on a cure by resolution. After that period, when suppuration has commenced, the controlling power of this remedy is lost, and the ordinary treatment applicable to all glands in a state of suppuration must be followed, viz., hot stupes, poultices frequently changed, the early use of the lancet when suppuration is established,

and, after the abscess has been discharged, moderate and general pressure by straps of adhesive plaster having sufficient aperture for discharge of purulent matter. The indurations which often remain are best treated by friction with compound iodine ointment.

"In the secondary abscesses which form after the first have run their course, this remedy is not so successful; the inflammation has then assumed the asthenic type, and in this case quina, opium, and change of air, with mildly nutritious diet, must be chiefly depended on; but, with the judicious use of the remedies above indicated, this second stage, with all its painful concomitants may, in almost every instance, be avoided, and the structure and important functions of the gland be preserved from injury. To recapitulate: the treatment I have so successfully followed is, to administer tartar-emetic in half-grain doses every fifteen minutes till nausea and free vomiting is produced, and to maintain the sickness for several hours, if required; constant stuping for twelve hours; rest in the recumbent position; ablactation, or temporary weaning of the child; and, if the antimony do not happen to act on the bowels, then a saline purgative. Such has been my practice for more than eighteen years; and so great is my confidence in its efficacy, that I am accustomed to say to my patient, 'Follow my advice in every particular, and I promise you complete relief in twelve hours.' In thus occupying the attention of the Society, I do not lay claim to any discovery in medical science; all that I assume is the successful application to a particular affection of a principle well-recognised in the treatment of disease.

"N. B.—Since reading the above, a friend has called my attention to the fourth volume of the Dublin Medical Journal (first series), published in January, 1834, in which Dr. Beatty has put forward similar views. The Doctor recommends smaller doses, $\frac{1}{16}$th, of the same remedy at longer intervals (an hour), omitting the medicine if vomiting be produced, and looks for improvement in twenty-four hours. This testimony of so very eminent an authority to the use of tartar-emetic, although overlooked by compilers of our modern text-books, I am very proud to acknowledge; as, although not recommending the remedy in such large doses, it affirms the principle I wish to establish, and may encourage others to adopt this plan, which, although the result of my own unaided observation, might not on that account obtain from the profession at large the attention otherwise justly its due."

August 1, 1859.

Dr. Patterson, President, in the Chair.

Dr. M'Cormac read the following paper *On some Features of what is termed Revivalism:*—

The phenomena known under the term "revivalism" are confined perhaps to no nation or time. They extend to both body and mind, producing, among other results, in the former, catalepsy, convulsions,

speechlessness, fainting-fits; in the latter, exaltation, wandering, and, in some cases, insanity. The medium of communication between revivalist and revivalist is certainly the mind; and through the operation of mind on mind are all the phenomena appertaining to it, in the first instance at least, produced. Secondarily, indeed, the mind of the affected person acts upon itself and upon the body likewise.

The great majority of sufferers are females, and these again are almost entirely confined to the humbler classes of society and to particular sects. These circumstances alone, if any proofs were wanted, show the artificial and partial character of the phenomena of revivalism.

It is quite unnecessary to describe the special cases and phenomena of revivalism. One case of hysteria, the mental pre-occupation apart, has a general family likeness to other cases of hysteria; catalepsy vies with catalepsy; and convulsion with convulsion. That these diseases, epilepsy even, in certain cases inclusive, are propagated by imitation, is matter of notoriety to medical men. The revival movement at Cambuslang nigh Glasgow, in 1742, was like the various revivals that have since taken place in America, as well as the Belfast revival movement of 1859. One and all, on the part of those who take a share in them, assume a personal communication with the Deity, a special providence and a special inspiration, whereas it is the general impression of intelligent thinking men that they are the exclusive result of imitation.

The present outbreak of revivalism has worn all the characters of a real epidemic. It has attacked the spinners in their mills, the servants, i. e. the servant-maids, at their work. From some places of worship the smitten ones, it is said, could have been counted by scores. The same movement has gone from town to town, and from neighbourhood to neighbourhood. The unlearned teach, and the ignorant expound, while the educated and intelligent look on in silent wonder, or, in some instances, unhappily, lend their countenance to the work.

An able observer, a clergyman of the Establishment, wrote as follows to me from the country:—"The girls and boys who have been struck down are going about kissing one another in public. We have also had a new feature. A child of six months old took it, and its countenance and the way it held out its hands were, they said, quite heavenly."

I have been informed by trustworthy observers, that in those cases in which immoral, intemperate persons were attacked, an entire reform was very often observable in their conduct and bearing. The intemperate became temperate, the immoral moral, and evil speakers and loose livers, of correct deportment. That this was so in many instances, I have not a shadow of doubt. At the same time, there was very often a complete cessation of all habits of regular industry. Some few died of disease, brought on by over-excitement. Others became insane. And a few, there is every reason to

believe, counterfeited the phenomena of revivalism, some to approve themselves more worthy, and others from motives yet less creditable. The following three letters have already appeared in the local journals:—

"I. *The True Revival.*—The true revival is nearness to God, the service of the heart, the habitual realization and the practice of those just and pure and generous affections which realize indeed heaven in this life, and secure its reversion in the next. Spasmodic shoutings, or cries, or writhings, or self-denunciation, or protracted melancholy, associated with whatever religious catchwords, are not a true revival, will not conduct us to God. They are but a temporary effervescence of over-wrought feelings, sometimes, though rarely, leading to desirable results, but much oftener to self-deception, spiritual arrogance, bodily disease, and not very unfrequently the lazar-house for the insane.

"The history of humanity, with the annals of self-imposture, in every sect almost, is rife with instances of this boiling-over of the religious element, which, in later years, now in America, now in Wales, and now here, bears the name of religious revivals. It is simply the perversion or misdirection of a sentiment else natural and needful to the soul of man. But the religious sentiment itself, like all others, demands the guidance and restraints of reason; else, the most ignorant and besotted often laying claim, false claim, to the immediate direction of Heaven, go astray themselves, and insult the faithful record of right convictions and a holier faith.

"The kingdom of heaven is won by slow degrees, by effort, by truthfulness, the habitual practice of what is right; and not through spasms, and contortions, and grimace. The inspirations of the Most High follow closely on the development of the soul in affection, and intelligence, and goodness. The pure in heart indeed shall see God[a], but not the less true is it, from the world's beginning until now, that with whatever certainty the culture of the religious, the spiritual affections, leads to heaven, it must, in order to realize its fullest, fairest fruits, be associated with all the proprieties, the soundest reason, the loftiest, most unflinching development of the intelligence."

"II. *The Real Revival.*—The Deity, through the mouths of all His servants, assures us that just deeds and pure affections are the avenue to His favour, and to the happy frame of mind which realizes heaven. Let us rescue, if we can, by direct and energetic culture, the greatly neglected children and youth of this large community, rendering them, indeed, good sons and daughters, and, presently, good husbands and wives and citizens. But it is not through religious empiricism that we shall do so, or by encouraging fainting-fits, or incoherent religious ravings and ejaculations, too often no more the evidence of a real religious influence than would be an attack of epilepsy or insanity. There is no such short-cut to heaven. Such influences are evanescent as they are unreal. No

[a] "Blessed are the pure in heart, for they shall see God."—MATT. v. 8.

respectable religious teacher, no reflecting man, should lend them the slightest countenance, unless to discountenance them. Very different are they in character and result from the sedulous, persistent culture of the heart and understanding, which, coupled, as I must again iterate, with just deeds and pure affections, is the only road to heaven.

"'Revivals,' observes a writer in the Edinburgh Review for October, 1850, 'are made up of all the arts of excitement, coupled with some of the arts of fraud, which mingle strangely together in spiritual zealotry. Religious madness is a form of insanity well known in lunatic asylums and out of them'[a]. 'It is admitted,' says Sir Charles Lyell, in his work on the United States, second edition, 'and deplored by the advocates of revivals, that after the application of such violent stimulants there is invariably a reaction, and it is creditable to the New England clergy of all sects that they have in general, of late years, almost discontinued such meetings.' The same judicious writer, speaking of the Millerites, followers of a man who announced the 23rd of October, 1844, as the end of the world, says that they advertised ascension robes for going up to heaven, and that some even 'sat up all night in their shrouds,' in anticipation of that event. I heard much of the Millerites during a tour in the United States, and of their insane doings, and came myself, near Troy, north of Albany, in contact with an instance of fanaticism so revolting, that I hesitate to describe it in a public print.'

"III. *The Only Revival.* — The revival movement is a moral epidemic, an infection flowing from imitation, propagating itself at once through the minds and nervous systems of those affected. In many instances, indeed, it impairs the moral equilibrium, produces faintings, spasms, exhaustion, ejaculations,—too often no more a criterion of sound religious influences than were long since the excesses of the convulsionaries of St. Medardus or Loudun.

"To the revivalist sufferer his revival seems a great fact. He ascribes it to the Spirit of God, whereas it is to be ascribed to the spirit of imitation, of whose potent influence he knows nothing.

"It might be said—Even so, let us turn the revival movement to good. But the revival movement, so termed, is a morbid and impermanent one, that cannot well be so turned. It is not thus that the waters of life, the peace of God, the spiritual, the only revival, can be made to irrigate the barren wastes of man's soul. For God's sacred influence is peace; it is seen in the steadfast performance of every duty. Here, the experience of the physician avails as well as that of the spiritual teacher. If the latter foster a merely hysterical

[a] The notices in medical works on the results of perverted religious influences are almost countless. "The instances of religious excitement furnished by the revivals, the camp meetings, and field preachings in America and Scotland, the modern gift of tongues in this metropolis, are all forms of this kind of partial insanity, which often passes into more furious mania, or confirmed insanity."—*Copland's Medical Dictionary*, Art. "Insanity," §§ 122, 286. See also Dr. M'Cormac's "Aspirations from the Inner, the Spiritual Life." [Now in the press.].

impulse of imitation, and look to it for realizing the sober, solemn fruits of permanent, well-reasoned culture, he will but disserve the object of his solicitude. God does not torment his followers. Love and belief, if spiritual teachers could but be made to see it, are indeed one. It is only by daily, reiterated, persistent culture that apathy is to be roused, ignorance superseded, and the soul brought into real relation with the truths of Heaven.

"For every sacred, holy duty is consonant with the discharge of the daily task. The schoolmaster often is needed rather than the religious teacher, unless, indeed, the latter happen to be a wise and large-hearted man. And, even then, secular and religious culture should go together. The neglected, ignorant, suffering many, and not merely the subjects of a pretended religious movement, and, in reality, temporary, baseless excitement, should be attended to. In plain earnestness, there is abundant time for the worship of God in the morning and evening hour, ere the daily task, which is also holy, has begun, and after it is done. For to work, in very truth, is to pray[a]. It is not right that the people should be induced to neglect their daily toil. And those who wish the multitudes well will do better by teaching the unclean to be clean, the immoral to be moral, the ignorant to get rid of their ignorance, realizing comfort, and order, and peace—for the empire of goodness is consistent in all things—than in running after pretended revivals, which, as all experience shows, and will also show here, have neither permanence nor fitness to recommend them."

Professor Gordon brought forward the following case of *Fracture of the Clavicle between the Coraco-clavicular Ligaments.*

"Sarah Willis, aged 16, a mill-worker, admitted into the Belfast General Hospital, May 31, 1859. She says 'that, whilst at her work, she stumbled, and, falling on her elbow, injured her shoulder.' On looking at her as she lay in bed, the nature of the injury was very evident. The right shoulder was directed more forwards than the left, and, relatively to the clavicle, depressed. The trapezius was visibly projected backwards, opposite to and by the outer end of the inner or sternal fragment of the clavicle, fully half an inch of which projected beyond the inner end of the outer or acromial fragment. The fracture was oblique from behind forwards, and about two lines external to the commencement of the posterior convexity. The acromial fragment posteriorly was three-quarters of an inch in length, whilst along its anterior border it measured one inch. The distance between the acromio-clavicular and sterno-clavicular articulations on the left side was four inches, whilst that of the right or injured side was only three inches. The outer fragment rested against the anterior border of the sternal fragment.

"This is the fourth example of fracture of the clavicle between the coraco-clavicular ligaments which I have met with in a period

[a] "Laborare est orare."

of six months. Two of them were of old standing, and two recent. The former I had an opportunity of dissecting, and the results have been recorded in the Transactions of the Clinico-Pathological Society. Although two of these instances have occurred subsequently to my first communication on this subject, they confirm fully all the observations then made. I shall now, however, give a summary of the conclusions at which I have arrived, and of the facts observed in the two cases in the living, and of the three specimens deposited in the Museum of Queen's College.

"1. That, from the form of the clavicle, fracture in the posterior concavity, or in that part of it to which the coraco-clavicular ligaments are attached, is not a rare accident, having met with four cases within the short period of six months, two in the living, and two in the dead.

"2. When the clavicle is broken between the coraco-clavicular ligaments, there is generally considerable displacement of the outer fragment forwards on the anterior border of the inner portion; and the attachments of these ligaments do not offer any important resistance to this displacement. If we dissect away all the soft parts, leaving the clavicle attached to the scapula by its ligaments alone, then saw through the clavicle, leaving the compact layer on its under surface untouched, and after that break it, it will be found that the coraco-clavicular ligaments do not offer any appreciable resistance to the outer fragment, being applied against the anterior border of the inner one.

"3. We have fracture between the coraco-clavicular ligaments without displacement, and when that occurs it must be referred to some other cause than to the resistance offered by these ligaments.

"4. The extent and nature of the displacement in fracture between the coraco-clavicular ligaments will be found to be very variable. There may be scarcely any displacement, or, as in No. 1 specimen, the outer fragment may unite almost at a right angle with the inner one, the upper surfaces maintaining the same horizontal level; or, as in No. 2, with the acromial fragment somewhat above the sternal one, and the angle formed between the fragments somewhat less than a right angle; or, as in No. 3 and the case just related, where the outer fragment is displaced so much inwards as to leave half an inch or even a little more of the inner fragment projecting beyond the inner end of the outer fragment. No. 3 presents us with an example in which there was a false joint, the fragments being united by strong ligamentous bands, and, in addition, the outer end of the inner fragments was so rotated by the action of the trapezius muscle, that its upper surface looks forwards and upwards, instead of directly upwards.

"5. The outer end of the sternal fragment seems to be displaced backwards and slightly upwards, but this is more apparent than real, from the shoulder falling downwards and inwards.

"6. From the inclination forwards and inwards of the shoulder, the outer end of the sternal fragment comes in contact with the

trapezius; hence, when pressure is made on that muscle opposite the fracture, it becomes applied against the end of the sternal fragment, causing a jagging pain, much more acute than when pressure is made over any other part of the fracture. The severity of this pain, however, will depend on the seat of the fracture, its nature, the form of the clavicle, and the tolerance of the patient to pain. Thus the pain on pressure in my first case, that of the carpenter, was most acute, whilst that of the girl Willis was not complained of.

"7. From the form of the clavicle, fracture occurs most frequently at the centre of the posterior concavity, or a little more external, than between the trapezoid ligament and acromio-clavicular articulation. For, when we take into consideration the short space that exists between the extreme external attachments of the trapezoid ligament and the acromion, the greater transverse breadth of the clavicle here than half an inch or an inch more inwards, and the shorter lever, it is quite evident that fracture between the ligaments and acromion must be a very rare accident, and the result of some peculiar and direct force; whereas, in fracture between the coraco-clavicular ligaments we have a longer lever, lessened diameter, and the curve of the clavicle, all conducing or predisposing to fracture here rather than external to these ligaments.

"8. From the attachments of the coraco-clavicular ligaments, from the three specimens exhibited, and the two cases related, I am of opinion that several of the cases of fracture of the clavicle described by Dr. R. W. Smith in his Treatise on Fractures in the Vicinity of the Joints, as external to the coraco-clavicular ligaments, are really between them, and that his observations on this accident, and those of Mr. Erichsen[a], apply more correctly to the fracture between than to those external to the coraco-clavicular ligaments.

"*On the Treatment of Fractures of the Clavicle.*—I have not as yet made any reference to the treatment of fracture of the clavicle between the coraco-clavicular ligaments; but as this injury is to be treated on the same principles as fractures of the inner two-thirds of that bone, and as the views held by me are different from those generally entertained, I shall now briefly state them.

"The main use of the clavicle is to keep the scapula outwards, and thus preserve the transverse breadth of the shoulder, giving to the upper extremity a greater freedom and scope of action. No matter what may have been the occupation of the individual, the upper surface does not change its form; but such is not the case with its anterior and posterior borders: they become curved just in proportion to the laborious occupation at which the individual may have been engaged. Hence, when the clavicle is fractured, the scapula, no longer held outwards by it, takes the direction which the physiological action of the muscles impresses upon the sound bone, that is, forwards and inwards. The thorax represents a cone, the transverse diameter of which rapidly increases from above downwards;

[a] Science and Art of Surgery.

it also slopes obliquely downwards and forwards; and besides its greatest transverse diameter, against which the base of the scapula and a small portion of its venter rest, is not in, but behind its centre. The external two-thirds of the venter and neck of the scapula are not in immediate contact with the ribs, but are held outwards by the clavicle. Now, if we place the scapula, supported by the clavicle, in its natural position, and then withdraw the clavicle, the venter or fossa subscapularis will become more extensively applied to the thorax, and although the posterior border or base of the scapula may still maintain its relative position on the ribs, its external or acromial angle will fall forwards and inwards. Hence, in fracture of the clavicle, this rotation or alteration in the direction of the scapula causes the outer fragment of the clavicle and acromial angle of the scapula to be depressed, though the scapula itself, in its vertical relation to the ribs, has not undergone any change.

"If we observe carefully a person who has sustained a recent fracture of the clavicle, we see that he inclines towards the injured side, with the shoulder seemingly depressed; and if, at the same time, we examine the spinal column, it will present a concavity towards the injured side. If we now direct the patient to straighten himself until the curvature of the spine disappears, and then compare the two shoulders, in most recent cases we shall see that the shoulder of the injured side is no longer depressed, but actually raised; and the more it is elevated, the more will the scapula come into relation with a narrower part of the thorax, and the more, therefore, will its acromial angle fall forwards, inwards, and downwards, diminishing the distance between the sterno-clavicular and acromio-clavicular articulations.

"The explanation hitherto given by surgeons of the displacements in fractures of the clavicle is, that the outer fragment is drawn forwards and inwards by muscular action, and mainly depressed by the weight of the extremity. That the outer fragment lies beneath the inner one, there cannot be any doubt; however, that it and the scapula are dragged downwards, relatively to the thorax, by the weight of the extremity is a statement the accuracy of which I cannot admit. Is such an explanation in accordance with the recognised influence of muscular contraction in causing deformity? The muscles in this fracture, as in others, are not passive, but active. The weight of the extremity being regarded as the chief agent in causing displacement, the treatment has been conducted so as to counteract it. The lower end of the humerus has been brought forwards, and used as a lever, to force, by its upper end, the scapula upwards, outwards, and backwards, and thus made to counteract the displacement downwards, forwards, and inwards. Have not the form of the thorax and the relations of the scapula to it been overlooked? Has this treatment been successful? All practical surgeons bear testimony that in fractures of the clavicle the treatment has not been very satisfactory. Overlapping of the fragments is the rule, and accurate adaptation the exception.

"The following seems to me to be the nature and cause of the displacement. When the clavicle is broken, the outer or acromial angle of the scapula, no longer held outwards, falls forwards, inwards, and downwards. The form of the thorax conduces to this movement, but the chief agents are the serratus magnus, lesser pectoral, and subclavius muscles; and whilst the scapula is in this position, the rhomboideus levator angulæ scapulæ, and the trapezius muscles elevate it, also assisted very much by the action on the humerus of the clavicular and upper sternal fibres of the great pectoral. The patient leans to the injured side, not to allow the shoulder to be depressed, but to relax the muscles excited to contraction by the irritation of the broken surfaces. To counteract the displacement that occurs, let a large pad, larger than that usually employed, be placed in the axilla, and fixed there by a figure of 8 or clavicular bandage, sufficiently tight not only to fix the pad steadily, but also to keep the shoulders well backwards; let the arm now be extended directly downwards and firmly fixed to the body by a bandage or belt carried horizontally around the body, and permanent extension maintained by passing a band around the perineum or upper and inner part of the thigh (the same as the perineal band used in fractures of the shaft of the femur when treated by the long splint), and extending around the upper end of the forearm, flexed at right angles with the arm.

"When extension is thus made on the arm directly downwards with a large pad in the axilla, the outer fragment passes outwards, and comes into the most accurate apposition with the inner, and this is materially assisted by the form of the thorax, for, as we pull upon the arm, and thus drag the scapula downwards, it is forced outwards and brought over a wider part of the thorax, which counteracts very much the tendency to displacement inwards.

"*On Fracture of the lower end of the Radius.*—Of all the bones of the body, none of them are, I believe, so frequently broken as the lower end of the radius. It is almost universally admitted that after this accident the concavity of the radius is seldom perfectly restored, and the utility of the upper extremity is often impaired for weeks, months, and sometimes permanently, notwithstanding the greatest care on the part of the surgeon. There is, therefore, a necessity for a more correct and satisfactory mode of treatment. The object of the present communication is to bring before the profession a splint which I think is better calculated to restore the natural concavity of the radius than those now in use.

"Without entering into detail as to the anatomical characters of this accident, it will be sufficient for my purpose to say, that the broken ends of the bones undergo a double displacement. The upper end of lower fragment and the lower end of upper fragment are displaced forwards and inwards, causing a prominence in the front of the forearm, and a diminution of its transverse diameter. As a consequence of this displacement, the carpal end of the radius is directed downwards, backwards, and a little outwards, causing the styloid

process of the radius to ascend, and also giving an appearance to the hand as if it had undergone a partial displacement backwards, and to the radial side of the forearm.

"To counteract this deformity, the treatment usually adopted may be well illustrated by giving that recommended by Dr. R. W. Smith in his Treatise on Fractures in the Vicinity of Joints, page 167:—'The deformity having been, as far as possible, removed by extension and counter-extension, and the hand moderately adducted, a cushion is to be placed upon the posterior surface of the limb, of sufficient length to extend from the elbow to the fingers; the portion of this cushion which corresponds to the lower fragment of the radius and to the carpus should be thicker than any other part, and from its ulnar to its radial border should gradually increase in thickness. A transverse section of this portion of the cushion would represent an isosceles triangle, the base of which would correspond to the radial border of the limb. The objects proposed to be attained by constructing the pad of this form are, to press the lower fragments of the radius forwards, and to direct its external border towards the side of pronation. . . . A second cushion, thicker below than above, is to be placed upon the front of the limb, but should not descend below the margin of the superior fragment, for otherwise it would, to a certain extent, counteract the influence of the dorsal cushion, and would tend to maintain the displacement backwards of the inferior fragment. An anterior and posterior splint are then applied, each of which should be an inch broader than the forearm; the posterior should extend from the elbow to the fingers, and should be curved from the wrist downwards, to receive the adducted hand; the anterior need not descend below the palm of the hand; a roller is then to be carried around the splint in the ordinary manner.'

"Is a simple cushion, thicker below than above, placed along the anterior surface of the forearm, and extending as low as the lower end of upper fragment, sufficient to maintain, with the assistance of the dorsal pads and splint, the convexity of the radius? Place a splint along the anterior surface of the forearm, and look at the relations of the radius to it: below, it is in contact with the splint, but as we ascend, we see the radius gradually inclining from the anterior to the posterior aspect of the forearm, leaving a triangular space opposite the termination of the fleshy fibres of the supinatus longus, of nearly an inch and a half in breadth between it and the splint. Besides, the cushion in front, thicker below than above, exercises its chief pressure on the ulnar side of the forearm, and is totally insufficient to re-establish the natural concavity of the radius, and the anterior splint descending as far as the palm of the hand, with the hand towards pronation, prevents the pad being pushed sufficiently backwards. The triangular-shaped cushion behind, supported by the dorsal splint, has a tendency to rectify the displacement, but it cannot do so effectively unless we have a firm support in front pressing the fragments backwards, whilst the carpal end of the radius is forced forwards. To fill up the concavity of the radius, and to pre-

serve it during the consolidation of the fracture, something more solid than a cushion will be requisite.

"Take a piece of common deal or pine, the length and breadth of the forearm, and three-fourths of an inch in thickness, having its lower end rounded off, that it may rest equally on the forepart of the carpus and upper part of the hand when flexed on the forearm; another piece of wood, one inch in depth, and one inch and a half broad, is to be attached to the piece just mentioned, about one-third of an inch from the radial border below; then cut it obliquely from without inwards, and also below and above, until it fills up and fits exactly the concavity of the radius. Take a third piece of wood, about two inches in depth, and four in length, cut it obliquely, so that, when attached to the back of the first piece, it may incline inwards, and also towards the ulnar side; make a notch in its radial border, to receive the ball of the thumb, and allow of the adduction of the hand. Having removed the deformity by extension and counter-extension, and placed a soft cushion on the splint, let it be applied on the extremity; then place a small cushion over the back of the carpus and hand, and another on the upper and back of the forearm, near the elbow-joint; over these, a straight splint extending from the elbow to the hand. The notch below receives the ball of the thumb, and the piece in which the notch is cut, forming an obtuse angle with the body of the splint, permits adduction of the hand, and, as it also inclines inwards, it permits moderate flexion of the hand upon the forearm. The piece of wood on the radial border of the body of the splint, filling the concavity of the radius, serves as a fulcrum, pushing backwards the fractured ends of the bones; and the posterior splint, acting on the back of the hand, carpus, and carpal end of the radius, inclines them forwards in the direction of flexion. The piece of wood which is attached along the radial border of the body of the splint, being about one-third of an inch from its margin, is directly forced into the concavity of the radius. The outer margin of the body of the splint receives directly the pressure of the bandage, and protects the outer margin of the radius from it, and thus is the transverse breadth of the forearm preserved. I am inclined to think that too much importance has been laid on the adduction of the hand in restoring the interosseous space; as I believe, if we succeed in restoring the natural concavity of the radius, we will also restore at the same time the interosseous space, just in the same way as we would a broken piece of wood, whose broken surfaces were not displaced, but formed an angle from pressure on both its ends. To remedy such an inclination, all that is requisite to do is to make such an amount of pressure at the seat of fracture as shall restore it to its straight position."

SEPTEMBER 5, 1859.

DR. PATTERSON, PRESIDENT, in the Chair.

DR. MURNEY related the following case:—

"In 1857 I detailed the history of a case of *Popliteal Aneurism* treated by compression, which terminated fatally by the bursting of the artery on the proximal side of the tumour, in consequence of the extensively diseased condition of the coats of the vessel.

"To-day I place before you a brief record of another case of the same disease, treated in similar fashion, followed by satisfactory results.

"A man, aged 26, of medium stature, and rather spare habit of body, was admitted into the General Hospital on the 9th of June last. By occupation a stable-boy, occasionally he exercised horses, but his duties were more those of a groom; his habits were at times dissipated, but he could scarcely be called a drunkard. The disease had existed for four months; when first noticed, the tumour was not more than half the size of a pigeon's egg; at the same time the superficial veins of the leg (which had been varicose for years) became much more swollen, and the limb generally was larger. The prominence in the ham steadily and regularly increased, and when he came under my care it was fully as large as a medium-sized cocoa-nut placed transversely, producing a somewhat flattened prominence on the inside, and a more spherical elevation on the outside of the knee. In brief terms, the following points were noticed: the knee was, of course, semiflexed; pulsation was arrested by compression of the femoral artery, and at the same time a general diminution in the size of the swelling took place; a distinct bruit de souffle was heard; pressure on the proximal side, of course, arrested this sound; on its removal, a distinct bang or thump was heard as the blood resumed its course. There was no evidence of disease in any other part of the arterial system.

"It was my intention to commence treatment in two or three days; unfortunately, however, on the second day he slipped when crossing the ward, and hurt or strained the tumour very much; the knee and leg became swollen, and he suffered great pain. Evaporating lotions to the part, opiates, and other treatment considered advisable, were used, and on the fifth day after, viz., on the 16th, the swelling was gone, the pain subsided, and the stethoscopic symptoms were the same as on his admission. Carte's compressors were now applied, and he was instructed how to use them alternately, as the pressure would become painful. Twenty-four hours after, the report in my case-book is: 'Tumour considered smaller to-day; no bruit can be heard at any part of the popliteal space.' On the 18th the report was: 'On the most careful examination, neither pulsation nor murmur can be detected; size of leg and prominence of tumour distinctly less; the latter is also less hard.' For the next day or two he was directed to screw down the compressors occasionally for half an hour at a time; a sense of numbness in the leg and foot, which was experienced

after the first twenty-four hours of pressure, now began gradually to subside, and the temperature of the part, which was below that of the other limb for the same period, was gradually restored as the collateral circulation became established. When all treatment had ceased for some days, he was seized with a mild febrile attack, which yielded after a time; and he was discharged from hospital on the 11th of July.

"In this case I considered the pressure was successful in twenty-four hours; but, as a measure of caution, I thought it better to continue it for a short time longer; certainly, the most decided opponent of the treatment of aneurism in this way could not say the time required was more than forty-eight hours. A few cases of such prompt and satisfactory results are on record; I regret they are not more frequent.

"I have not had an opportunity of witnessing the treatment by flexion as introduced by Mr. Ernest Hart, and practised by him, by Mr. Shaw, and others. I cannot, however, think of any case in which this new mode would be preferable to the older plan. It is said the appropriate cases for flexion occur in individuals of spare habit of body, and in whom the aneurism is small; this of course limits the number in which it can be tried. It has been remarked, whether the treatment occupied a short or long term, the patient suffered very much at first from the constrained position, and at a later period from stiffness of the knee-joint. On the other hand, I have not observed any difficulty in the application of pressure; in some irritable individuals, no doubt, the surgeon's patience will be taxed to induce his client to persevere with the treatment. I fear in such subjects any plan would be objected to.

"At present, I must say my opinion is, pressure is troublesome to the surgeon, but does not entail any danger or much annoyance to the patient; flexion, I expect, would require much less attention from the medical man, but would be more irksome to the sufferer.

"As yet, a sufficient number have not been treated by it to warrant a comparison with the more established method, so as to show if it possesses the advantage of greater rapidity in attaining a cure."

October 3, 1859.

Dr. Patterson, President, in the Chair.

Surgeon S. Browne read the following paper on *Dry Gangrene:*—

"The following interesting case I am desirous of submitting to the notice of the Medical Society, that it may be preserved among their Transactions. It illustrates a comparatively rare pathological condition, namely, chronic, dry, symptomatic, or, as it has been named, senile gangrene, occurring in a person of middle age; and it likewise shows the insidious nature of the disease, and the rapid progress of what may be strictly called a chronic affection. In the following brief notice I shall give a record of the history and progress of the case to its fatal termination; then the pathological con-

dition, as revealed by post-mortem examination; and shall close with some reference to the opinions of pathologists on the nature and causes of the disease under consideration.

"On Monday, the 8th of August last, Mrs. M'——, aged 48 years, was admitted into the Belfast General Hospital, under my care. She then seemed weak, and was much emaciated, like a person suffering from lengthened indisposition, or from the want of proper nourishment. To the latter condition, I have reason to know, she had been exposed. Her statement regarding her previous state was to the following effect:—Up to the period of her last confinement (some eighteen months since) she had enjoyed tolerable health, though she never had been of robust constitution, and had menstruated regularly, unless when pregnant. She had never suffered from acute rheumatism, nor indeed had ever been very seriously ill. After the birth of her last child, the menstrual function entirely ceased. A few days after her last accouchement she had an attack of pelvic inflammation of some kind, but had not any symptoms whatever of phlegmasia dolens. Since that period she has been rather delicate in health, partly arising from the cares, privations, and vicissitudes of a soldier's wife; and latterly there cannot be a question that she had not been sufficiently nourished, and had slept in a miserable, damp, badly ventilated lodging,—had been subjected, in fact, to those conditions which would vitiate the healthiest system. Under all these adverse circumstances, however, she felt nothing particularly wrong till the evening of Thursday, the 4th of August, when she experienced severe pains in the left foot and leg, and, during the night, in the thigh of same side. This pain was much aggravated in the morning, when she arose and bathed the parts in cold water; immediately after which she observed the limb became of a bright rose tint, and, shortly after, of a chocolate colour, the part feeling quite cold. About this time she was seen by one of the medical officers of the garrison, and afterwards by one of the Dispensary physicians, who sent her into the General Hospital. From these gentlemen I learned some of the preceding particulars, and also that on Saturday pulsation could be felt in the left femoral artery, throughout its entire course, till it entered the popliteal region. On examining the limb the day after admission, it was found to be greatly discoloured and cold from the toes up to the junction of upper and middle thirds of the thigh, and that no pulsation whatever could be discovered either in the femoral or external iliac vessels. The discoloration was mottled of different tints: some parts of the foot were nearly black; on the leg there were blue, green, and violet-coloured spots, interspersed with patches of a nearly natural hue, and the thigh was of a dusky yellow. The temperature of the limb decreased from the groin downwards, the lower part of the leg and foot being deadly cold, except in those spots which retained the natural colour, and in which there was appreciable heat,—both evidence of lingering vitality in the midst of surrounding death. The temperature I tested by the ther-

mometer. On the foot the temperature was that of water fresh from the cistern, 4° colder than the atmosphere of the open ward, which was 68°; at the knee the mercury rose to 70°; at mid-thigh it stood at 76°; and in the groin, 92° of Fahrenheit. The foot and front part of the leg were quite hard and shrivelled up, and the entire integument of the leg was dry, and without the least sensation,—indeed, sensation was lost from the mid-thigh downwards, save a feeling of pain about the knee. This, and a severe burning pain at the inferior part of the upper third of the thigh, were the only feeling she had in the limb. She had still some power of moving the thigh, but from the knee downwards all motion was lost. The pulse at the wrist was small, quick, and intermitting; the heart's action weak and irregular, with signs of valvular imperfection, and probably of dilatation of the left ventricle; the breathing was somewhat hurried and oppressed, unless when the patient had the shoulders well elevated—a position, I may remark, which had to be maintained throughout. The tongue was quite clean and healthy-coloured; the bowels acting naturally; the skin perspirable, but no profuse perspiration was present; and the general expression of the countenance was calm and hopeful, not indicating the dread state of the limb, and most unlike the expression which is so characteristic of acute gangrene of any extensive or important part. There was some, though not constant, irritability of stomach; the appetite was not good, and the desire for drink not urgent. I may state, however, that these symptoms varied greatly during the progress of the case, as on some days there was much greater depression and irritability than on others; and the pulse, sometimes weak and fluttering, at others was much stronger and less frequent, though at all times intermittent.

"Matters continued much in the same way till the 15th, when a line of demarcation began to form about four inches below the trochanter. This line was very irregular, and not well defined; the part was red and swollen, and was the seat of acute pain. By the 20th the line of separation was pretty deep, involving the integuments and muscular structure. From this there exuded a greenish fluid, of a very offensive odour. From the 17th the system began to be affected more markedly than before; the patient became restless and very thirsty, with nearly constant irritability of stomach; the expression of the countenance became one of great anxiety and distress, the heart's action very weak and fluttering, and there were occasional fits of impending syncope, with slight convulsive attacks, during which time the sufferer became, for a brief space, unconscious. When the line of separation had passed down to the bone, and the parts had nearly ceased to discharge the dark-coloured ichor, the poor patient seemed to rally a little for a few days.

"On the 31st of August I examined the right limb, as I had frequently done previously, to ascertain the state of the circulation in it. On that last occasion I found the pulsation in the femoral artery quite distinctly; but on the 2nd of September I was informed that the patient, on the previous evening, had been seized with

severe pain and spasms, or cramps, in the right foot, which, on examination, was found to be quite cold and blanched. When I examined the part on the 2nd, I observed the foot cold, and of a dusky hue; it was inverted, and the toes were firmly flexed. The patient complained of pain in the part and up along the limb, the heat and sensation of which were greatly diminished. The pulsation in the femoral, from below Poupart's ligament, was quite gone, and the right limb was evidently fast taking on the diseased condition of the left.

"It is needless to trace this most distressing case through all its varied symptoms. Let it suffice to say, that increasing disease, bed-sores, constitutional irritation, and consequent exhaustion finally destroyed existence after thirty-eight days of protracted suffering; during one week of which time nearly one-half of the body was dead already, and, for three weeks, one entire limb had been completely disorganized.

"The treatment consisted of beef-tea, wine, brandy, opium in large doses, camphor, and ammonia; while the limbs were kept rolled up in cotton wool, and pans containing hot water were constantly applied. Up to the time when the line of separation began to form, the parts affected were quite dry, and free from any disagreeable odour; but after the separation had passed deeply into the textures of the limb, the parts discharged a very offensive fluid. I then tried the deodorizing properties of the powder recently so much vaunted in the hospitals of France, and composed of plaster of Paris and coal tar. The proportions I used were six of the tar to about one hundred of the plaster. There cannot be a question that this mixture is a very good and very cheap deodorizer, and, in cases where it can be applied to all the parts yielding offensive gaseous products, will be found very useful; but in the case before the Society I found it necessary also to use the solution of the chloride of zinc ('Burnett's Fluid'), and even with the liberal use both of the powder and the fluid—one part to twenty or thirty of water,—and free ventilation, the air in the ward was very disagreeable.

"The following were the post-mortem appearances, the dissection having been carefully performed and recorded by Dr. Murney, —a sufficient guarantee that the inspection and record were accurately made:—Body very much emaciated; right leg and foot of a reddish-brown hue, precisely the colour of the stained tops of hunting-boots; the left lower limb was shrivelled, dried, and mummified; colour quite black as high as the junction of the upper and middle thirds of thigh, at which point almost complete separation of the dead from the living parts had been effected. The femur was exposed at all parts of its circumference, the only structures not yet separated being portions of the aponeurosis of the rectus femoris, semi-tendinosus, and semi-membranosus muscles. The viscera of the abdomen were healthy. Some adhesions were noticed, but not of sufficient importance to require special description. The abdominal aorta was of much smaller caliber than usual; in other respects it

was normal; there was nothing unusual about its various visceral branches. Immediately below the origin of the inferior mesenteric it was fully and firmly distended by a large clot, which also filled the common, internal, and three-fourths of the external iliac branches. It had been my intention to inject from the abdominal aorta, in order to examine the arteries of the lower extremities, but the presence of this clot compelled me to pass farther down, and strip the femoral, with the view of injecting the right limb from that vessel. It proved to be not of greater size than an average radial, and it was therefore after some trouble I was enabled to insert a small-sized femoral injection-pipe below Poupart's ligament. I used wax, coloured with vermillion, and thereby easily distended the main trunk, but the branches were not filled. This was caused by the presence of clots in nearly all the smaller arteries. Nothing peculiar attracted attention on the right side, although I followed the course, and removed for inspection the femoral, popliteal, and anterior and posterior tibial vessels to their terminations; except that the 'vasa vasorum' were more distended than usual. The left thigh was not injected, but the trunks of the femoral and profunda, and the anterior crural and external circumflex nerves, were followed to where the living had thrown off the dead parts. For a short distance from their extremities the nerves were more vascular, and their terminal portions were pointed. The femoral artery and vein had become ligamentous cords for at least one inch and a half from the line of demarcation. The pervious parts of the artery up to the common iliac showed intense congestion of the vasa vasorum, greater even than that on the right side; here also the caliber was a great deal less than natural. The aorta and its larger branches being laid open, remarkably firm fibrinous clots were found in the parts named, and also in the trunks of both limbs, at various points. The lining membrane was remarkably vascular in frequent patches. There was nothing peculiar about the vena cava ascendens, but the larger trunks which directly or indirectly terminate in it were with difficulty separated from the arteries they accompanied; indeed, it was quite impossible to disconnect the left femoral vessels for about two inches above the line of demarcation. Nearly the whole length of all the larger veins, so high as their termination in the cava, were filled with firm coagula. In the thorax tolerably extensive pleuritic adhesions were found; the lining substance was healthy. Before being taken out, the heart seemed greatly enlarged; but section of the cava and pulmonic veins permitted a large quantity of blood to pour from the cavities on both sides. The muscular tissue was healthy; weight, 9 oz. The openings, valves, &c., on the right side were normal. The left auricle was dilated so as to be fully one-half larger than natural, and the walls were thicker. The auriculo-ventricular opening was constricted, and its margin firm and cartilaginous. It was precisely of sufficient magnitude to admit the handle of an ordinary scalpel, which was $1\frac{1}{8}$ inch in circumference. The mitral valves were healthy. The walls of the left ventricle were hy-

pertrophied, and measured $\frac{7}{12}$th of an inch in thickness at the centre; this cavity was also dilated. The hydrostatic test showed the aortic valves to be incompetent. The opening from the ventricle into the artery was also diminished, and permitted the passage of an object $1\frac{3}{8}$ inch in circumference. The three valves were studded with a soft, wart-like growth, in greater quantity on the posterior and left division. In the place of each corpus aurantii was found a body of bony hardness, as large as a flattened pea. The arch, thoracic aorta, and their branches were of an average size. On being laid open, several highly vascular spots were observed, and patches of atheromatous deposit, of varying size, were noticed beneath the living membrane.

"*Remarks.*—The revelations of the scalpel in the case before us illustrate the pathology of symptomatic gangrene as laid down by Dupuytren, and show that some of the causes which the distinguished Baron considered as leading to the disease existed in a marked degree. Baron Dupuytren says that 'in investigating the cases of individuals who are subjects of symptomatic gangrene, it will be almost always found that they have been addicted to spirit-drinking or gross feeding, or that they have been affected with some chronic disease of the heart, of the aortic valves, and of the great vessels; all of which are causes that operate most frequently in provoking irritation and inflammation of the arterial system,'—this inflammation, no matter how provoked, causing the coagulation of the blood in the vessels affected, consequent occlusion of them, and gangrene of the parts to which they are distributed. In the present instance we have evidence of chronic disease of the heart, aortic valves, and great vessels; and clear signs of inflammation, and consequent occlusion of the vessels, as the gangrene ensued and progressed. M. Cruveilhier has established the fact, by direct experiment, that inflammation of the lining membrane of arteries causes coagulation of the blood, and exudation of plastic lymph, which glues the coagulum to the vessel, obliterates its caliber; and that mortification of the parts to which such arteries are distributed speedily ensues.

"The amount of disease discovered in the heart and valves could not in life have been fully estimated from the sounds revealed by the stethoscope. There was some evidence of imperfection of the valves, and there was a bruit, but the latter was not very marked, and was more like that observed in an anemic state of the system than that attendant upon extensive lesion of the valves of the heart and aorta. The morbid condition of the left side of the heart and the congested state of the pulmonary veins account for the difficulty of breathing when in the recumbent position.

"With regard to treatment, I imagine the only feasible one in such a case was adopted, namely, large doses of opium, as taught by Pott long ago, and stimulants. The Baron Dupuytren, in his essay on Symptomatic Gangrene, refers to general blood-letting in the disease, and points out the conditions which indicate that practice.

After asking, 'Is this treatment applicable to all forms of this disease?' he says—'I think it may be advantageously adopted whenever the disease is accompanied with acute pain and much swelling, the pulse hard and full, and the face flushed.' In my patient none of these indications, save the pain, were present; and any depletory measures in her case must have been followed by very speedy dissolution. The cases, indeed, adduced by Baron Dupuytren in support of his treatment do not appear to me to come properly under the denomination of dry gangrene; and are in every respect, save pain, most unlike that under notice.

"With regard to amputating the diseased part, after the line of demarcation formed, there never seemed any favourable opportunity to have arisen; and from the state of the heart and vessels as seen on dissection, such proceeding must have been unsuccessful."

Case of Oblique Fracture of the Femur, successfully treated by the Lever Splint. By DILLON KELLY, M.R.C.S.I., Medical Officer of the Milltown-Pass Dispensary.

IT is now nearly ten years since I accidentally discovered *my* lever splint (as there are others), and for eight years had not again an opportunity of testing its efficiency in fractures of the femur requiring continued extension for their symmetrical and successful treatment.

The following case, however, of oblique fracture of the upper portion of the lower third of that bone at length afforded me another example of its utility, and at the same time, as the text will show, furnished the most severe and convincing test that could, almost under any circumstances, be applied.

Taking no credit whatever to myself for any superiority which it really does not possess over the various mechanical appliances to be found in any surgical hospital for such purposes (Mr. Butcher's, for example, being the most recent), I should not have again thought of bringing it before the attention of the profession, were it not for its application to country practice, when not in the immediate vicinity of any of the county infirmaries, or when a patient should be obstinately attached to home, and unwilling to avail himself of such advantages as these institutions afford.

And, as an example of its superiority in such practice, it is scarcely necessary again to observe that my first splint was very rough and primitive in its construction indeed, being formed from the lath of a turf-crate. But here is the case.

February 14, 1857. J. Cavanagh, aged 12, partially imbecile, went, about 5 o'clock P.M., accompanied by a younger brother, to a field at the rere of the house, where their father was ploughing with two young horses, for the purpose of getting a ride home. When

near the gate of the field something frightened the one on which the younger brother was mounted, and which was led by the father, when the other, becoming also startled, took flight, plunged violently, and threw off the elder, whose right leg, in the act of falling, became entangled, just above the ankle, in the long chain tracings which were fastened across the animal's back to act as stirrups for him. Dashing wildly forwards, she rushed with him into the back yard, round which she galloped, kicking and plunging furiously all the time, the boy's head and shoulders bumping against the ground over heaps of stones and low walls; then through a narrow paved passage at the end of the house, leading to the front yard, most fortunately completely littered over with stable dung and decomposing straw, when, after a round or two, she was at length caught, and the poor little fellow extricated from his fearful position.

I saw him about an hour after the accident, and found him lying on his back in bed, his hair still matted, and his face and hands soiled with the litter through which he had been dragged, and which, added to his pallor, as he had not completely recovered from the shock, gave him a most collapsed and ghastly appearance. On removing the bed-clothes, the everted position of the right leg and foot, the shortened appearance of his thigh, a perceptible angle at the lower portion of its middle third, salient anteriorly and externally, its swollen and distorted appearance, together with its curved and exaggerated contour, convex externally, at once called my attention to that extremity as the chief seat of injury. A further examination convinced me that, notwithstanding the dreadful character of the accident, he had merely suffered oblique fracture of the femur, and that he had besides a slight wound on the forehead, and another on the occiput; that his pulse was good; that he had no confusion of ideas, no retching; or, in fact, any symptom indicative of either spinal or cerebral injury.

Being in the country, I improvised temporary splints and bandages, and put him on a palliasse, and, as that leg was fully two and a half inches shorter than its fellow, I determined on adopting the lever splint invented by me ten years since, and which I then found so effective.

On Sunday morning I found he had contrived during the night to pull away the internal splint, as it pressed slightly against the perineum, and that he had also shoved the outer one downwards, so that the thigh was exactly as when I first saw it the preceding evening. I therefore replaced the splints, laid the thigh and leg, for the time being, on a folded sheet, and did not again see him till Tuesday, when I had the lever and other splints made, and everything prepared.

The displacement being anterior and external, I first put up the fracture in the usual manner with four splints, but had the external and inferior one made of sheet iron and united by a hinge, as by such an arrangement the tendency to displacement of the lower splint by his sliding downwards towards the foot of the bed, and its

consequent motion upwards, was completely prevented. The anterior and internal splints were of wood, as usual. The external splint extended from the trochanter to the external condyle, but without including either; the inferior, as a thing of course, was much shorter, both having the curve of the thigh, and so broad that when in situ they embraced fully one half of it; the anterior the usual length; but the internal was sufficiently long to extend to the calf of the leg, and thus take in the knee.

Having already given a description of the lever splint in the fourteenth volume of this Journal, I shall merely add that I protected the perineum by the interposition of a strip of thick chamois leather, spread with diachylon, that I padded the perineal band with a "streak of flax;" that in its adjustment I passed no bandage round the pelvis, as he would not permit it; that the extending bands consisted of a silk handkerchief, clove-hitched behind the os calcis; that I put a pad of wadding between the outer aspect of the thigh, knee, calf of the leg, and the lever splint, and that I confined it so far downwards as the inner splint extended with an ordinary roller. And, to prevent the limb from rolling inwards (an idea I derived from Mr. Butcher's apparatus), I lodged the projecting end of the splint in a rest formed from a piece of soft deal, one foot long, two and a half inches broad, and three inches thick, with a notch sufficiently deep in its centre to preserve the vertical position of the splint, and with its upper surface, for symmetry, bevilled off from the notch to its extremities.

I saw him again on Thursday, the 19th, when he complained so much of the pressure of the ends of the handkerchief on his heel that I thought it necessary to apply a second handkerchief, turning the hitches to the sides just above each ankle, and tying the ends separately over the distal plane of the lever, and which turned out to be a very great improvement, as by its adoption the process of tying was so simplified that his father could occasionally unloose it and re-adjust it to give him ease.

I did not see him again until Monday, the 23rd, when I found that, notwithstanding the plain directions I had given to his father, who possessed a rough mechanical turn, and appeared perfectly to understand the nature of the fracture, and the end sought to be attained by the apparatus, he permitted him to work off the outer loop from the lever with the great toe of his left foot, and also that he had tampered with the knot of the perineal band, so that the original shortening and deformity had been restored. And it then came out that, notwithstanding his imbecility, he had sufficient cunning to impose on his father by slightly drawing up his left leg, so that both heels should be in the same plane, having heard me impress on him the necessity of seeing, at least three times a day, that both legs were of the same length. Here, then, was a most unlooked-for and annoying occurrence, as the same ground had to be gone over again, with ten whole days lost in addition.

After some little difficulty I again got the leg to its proper length,

readjusted the splints and bandages, cut the notches on the lever deeper, and squared them so that he was effectually prevented from again making use of his toe in the process of untying, and put an additional knot of stout housewife thread on the perineal band, so that further tampering with it, without the aid of a knife, was out of the question.

Sunday, 24th. Heard he complained much of his thigh and leg generally for some hours after I left, but that about 12 o'clock he fell asleep, and since that time remained perfectly quiet; and also that he asked for his breakfast, which he ate heartily some time before I saw him. On examination, I considered it necessary to readjust the perineal and lever bands, as they had stretched a little, and also to tighten the roller, as it had also become rather loose; slight œdema of the leg and foot.

Sunday, March 1st. Both legs exactly the same length; œdema increased; perineal band being much complained of, I removed it, examined the perineum, which was hot, tender, and moist, but unabraded. Had it, in consequence, washed with soft water, and sopped with vegeto, and applied a fresh piece of chamois, spread with diachylon, which he said felt nice and cool, and readjusted the perineal band, but did not consider it necessary to have it so tight as before, there not being the slightest appearance of retraction whatever of the leg on its removal.

Tuesday, 3rd. Readjusted all the splints and bandages, and found the leg quite normal in length, its symmetry unimpaired, tumefaction totally gone, and provisional callus, to all appearance, perfectly formed. I therefore had an opportunity of ascertaining exactly the site and direction of the fracture with perfect accuracy, which was before impossible from the swollen state of the thigh.

The fracture was situated in the uppermost portion of the lower third of the femur, its direction of obliquity from behind forwards, so that the upper portion was displaced forwards and slightly outwards.

In readjusting the pedal bands, as he complained much of the soreness of his ankle and heel, I thought it necessary to protect them by five or six layers of a roller before reapplying the handkerchiefs. And here I shall remark that, should I again meet with such an accident, I shall apply a few layers of a loose bandage as a preservative against the pressure of the hitches, the soreness produced by which was more complained of during the readjustment of the splints and bandages than any twist or turn of the limb.

Sunday, 8th. His father came in to say that a little girl they had as children's maid, in playing with him the evening before, gave him a sudden wrench, which he feared had done some harm, as he at once complained of being much hurt in the site of the fracture, and he cried almost incessantly all night. I saw him shortly after, and found that the anterior and inferior margin of the sheathing capsule of callus had been apparently broken up, thus constituting a sort of partial fracture, and that the anterior and inferior margin of the

fractured femur projected forwards, whilst the posterior remained in situ, so that the thigh was bent slightly backwards at the site of the injury. Slight extension, with pressure over the prominence, again restored the symmetry of the limb, which I then surrounded with a broad strap of diachylon plaster, sufficiently long to lap over its anterior aspect, and cross immediately over the site of the injury, and again readjusted the splint.

15th. I slightly loosened the perineal band, and would have removed the long splint altogether, were it not that I feared he would make some attempt to lean on the leg, as they found much difficulty in keeping him in bed the day before, when he heard the cry of the hounds.

And here I may incidentally observe that, having read Surgeon Mansfield's description of the American splint in the 6th Number of the Dublin Hospital Gazette for 1857, and having come to the conclusion not to remove the long splint for a few days more, I determined to give the adhesive loop of that apparatus a trial, and thus test its power of bearing the strain of extension. I therefore applied a strip of very strong twilled calico, triple folded, and spread with adhesive plaster, from the internal condyle of the femur to the head of the fibula, but departed a little from Mr. Mansfield's directions, inasmuch as I carried it closely beneath the sole of the foot, interposed a strip of stout calico for the lever band, applied a roller round the leg from the ankle to the knee, and tied the ends of the band over the distal plane of the lever, which I then pulled tight home with the lever cord.

At once the superiority of this mode of applying traction became apparent in the want of complaint on the part of the patient, who, on every other occasion when the lever was brought home to its proper position, invariably complained bitterly of the painful strain of the hitches on his leg and heel.

March 22nd. Removed the American adhesive loop, and found that the only elongation that took place in it was produced by the lever band acting immediately on the calico forming the loop from the ankle downwards only, the remaining portions of the strip of plaster not changing their position in the least. And I have no hesitation in saying that, were duck made use of instead of stout calico, very little elongation, if any, could have taken place. As it was, however, the play of the lever, to which the fullest power was given in the adjustment to meet such an anticipation, was fully equal and to spare, as two inches, if not more, of elongation could be obtained, if necessary, by merely tightening the lever cord; at the same time that the greatest amount of elongation could be equated for by shortening the perineal band, and thus protruding the splint to the required distance beyond the foot.

Before dropping the subject of the American adhesive loop, I shall observe that, through the kindness of Dr. Ferguson, who wished to test its power, I also applied it, with my splint, on a patient in the Infirmary, a boy eleven years old, whose thigh was frac-

tured transversely through the centre of its upper third, on whom it was allowed to remain for about twelve days, and with equally satisfactory results. And, by the way, the contiguity of the injury to the hip-joint not only produced vital anchylosis of it, but, if I may use such an expression, of the fracture also, not alone producing its perfect coaptation, but so effectively surrounding its site with condensed muscle and integument, that Dr. Ferguson was firmly convinced nature alone would have completed the process of perfect symmetrical repair, without the slightest artificial interference whatever, provided the patient could only be kept quiet. And I should also have said that, together with the vital anchylosis, elongation of the limb to fully the extent of $2\frac{1}{4}$ inches was also present, thus simulating the second stage of morbus coxæ, and which continued until the provisional callus was sufficiently firm to give it proper support, when it gradually disappeared, the limb again resuming its normal length, and the hip-joint its perfect and natural mobility. So much, in digression, for the American loop and fractures in the immediate vicinity of the hip-joint.

Having put on a starch bandage, and applied a roller on the leg, I got him up, and in two days he was hopping about on crutches, to his own great delight,

26th. Finding it impossible to induce him to keep his foot in a sling, which he said pulled his broken leg so much before his sound one in progression that it would "trip him up," it became so very much swollen, more especially about the knee, that I found it necessary to remove the starch bandage and again apply the lever splint, as no other means would confine him to bed. The swelling was peculiar,—œdematous on the dorsum of the foot, but about the knee, where it was very much exaggerated, it presented a sort of mixture of œdema and emphysema, yet partaking very little of the characters of either, falling down over the bandage on the leg in a loose flaccid fold, capable of being moved about in every direction, and perfectly painless, but productive of immense anxiety to his mother.

April 2nd. Reapplied the starch bandage on the plan of Mr. Hamilton, and again put him on his legs; in a fortnight he was able to put on a shoe and hop about with one crutch; in three weeks he could bear well on it, when I removed the starch bandage, substituting a light roller instead, and in one month from the period of his getting up he could walk exceedingly well without help of any sort.

In May, 1858, I examined him carefully, and found there was no difference whatever between it and the other leg, either in length, appearance, or capability of bearing those shocks to which he occasionally subjects it; yet, on running my finger over the site of the injury, a thickening of the bone on that point was distinctly sensible to the touch, although not to the eye.

I now see him almost daily, and he neither complains of nor appears to suffer any inconvenience from the injury, using, or rather abusing, that leg much more than the other, not only to show its

strength to his companions, but also to annoy a poor little fellow in his immediate neighbourhood, who is a cripple.

Such is a detail of the difficulties I had to encounter in this case, which were chiefly produced by the partial imbecility of the patient, and who, were his attention withdrawn from the subject of the injury, even whilst readjusting it, would appear as if quite unconscious of pain. And, by the way, these are difficulties which the fortunate country practitioner meets with, almost daily, in cases where either the circumstances of the patient or his love of home prevent him from taking advantage of the benefits held out to him so liberally by the county hospitals.

Cases from Practice. By Alexander W. Wallace M. D. Parsonstown.

On the Use of Iron in Puerperal Fever.—In the Number of the Edinburgh Monthly Journal for September, 1852, Dr. Begbie published a paper on Erysipelas, in which he details his experience of the value of the Tincture of the muriate of iron in that disease, administered as first proposed by Dr. Bell. At the close of the paper he suggests that it may also be found available in puerperal fever.

Having often had occasion to verify in my own experience the statement of Dr. Bell relative to the curative effect of iron in erysipelas, I resolved to give it a trial in the first cases of puerperal fever that should come under my notice. Of the first two cases that I had, I have unfortunately kept no notes. They were so unpromising that I had no expectation of a favourable issue, and I gave the iron with no anticipation of its doing decided good. The case now to be narrated is, however, quite parallel to the other two, except that in one of them there was an eruption all over the body of bullæ, filled with pus, and the further complication of hepatization of one lung.

Catherine Edwards, aged 25, in comfortable circumstances, but resides in an unhealthy part of the town. A river runs in part under the house, which is a three-story one; pigs are kept in the back yard and kitchen; bones, rags, leather, &c., are largely stored on the premises; and every description of filth has been allowed to accumulate. Labour commenced on the 16th May, 1859; membranes are stated to have ruptured at 2 P. M. on the 17th. She was first seen by me an hour after. The os was not fully dilated, very rigid; head presenting, pains strong. To have one-eighth of a grain of tartar emetic every half-hour. 7 P. M. No advance of head; pulse very frequent. To have one drachm of solution of muriate of morphia.

18th. 4 A. M. No advance of head; pains violent. Delivered with forceps with difficulty; child dead. To take solution of muriate of morphia, 80 minims, with an additional dose of one drachm at noon. There was some laceration of the perineum, and a copious discharge of dark liquid with the child. Evening. Pulse 108; feels comfortable.

19th. Has passed an indifferent night; pulse 108; belly tympanitic, slight tenderness. Ordered twelve grains of Dover's powder at night.

20th. Had a violent shivering fit during the night. Pulse 100; belly tense and tender; countenance sunk and anxious; lochia fetid and milky. Ordered hot fomentation, two grains of calomel, two grains of gray powder, and five grains of Dover's powder, every three hours. Evening. Tenderness less; pulse 136. Continue powders. To have an enema, composed of two table-spoonfuls of fresh-burnt charcoal in fine powder, beaten up with an egg, and diffused in half a pint of water.

21st. Bowels moved about ten times during the night; tongue whitish, moist; pulse 120. To have beef-tea. Discontinue powders. To have three grains of solution of chlorinated soda every fourth hour; a charcoal enema, with one drachm of solution of morphia, and one drachm of chlorinated soda. Evening. Bowels thrice moved; belly less tympanitic and tender; pulse 124. Continue chlorinated soda, and repeat the charcoal enema, combined with three grains of opium.

During the succeeding week her condition continued very much as above described. On the 24th she had two or three shivering fits; the pulse varied from 120 to 145. She had frequent attacks of diarrhœa, the belly being very tympanitic and rather tender. The countenance was dingy, sunken, and anxious. There was never any delirium.

On the 28th the pulse was 100, and there was some improvement in her appearance. During this period the treatment consisted in the administration of charcoal enemata once or twice a day, with the addition of opium when requisite on account of diarrhœa. The tincture of the muriate of iron not seeming to agree, it was exchanged for the ammonio-tartrate of iron, given in three or four-grain doses every fourth hour. Opiates were also occasionally given at night. Her diet consisted of strong soups and a moderate allowance of wine. Her improvement was gradual from the 28th; but the diarrhœa was long troublesome, and on account of it the iron was given in the form of persesqui-nitrate. She also suffered for many weeks from pains in the hip and swelling of the leg.

On this case I would remark:—1. This, as well as the other two cases to which I have referred, was, no doubt, an instance of blood-poisoning, resulting from a change in those substances which necessarily exist in large quantity in the blood, soon after delivery, from the absorption of the uterine substance, &c., and which are in a state of retrograde metamorphosis. 2. This poison is known to exercise a destructive influence on the blood corpuscles. 3. It is probably eliminated from the system by the bowels and by the skin. 4. The iron may be expected to be beneficial, partly by its action as an eliminator, but still more by its action as a restorer of the blood discs. 5. The charcoal is useful in absorbing at once any of the poison that is thrown out into the bowel, and perhaps even by acting on it in the blood through the coats of the intestinal vessels.

Pelvic Abscess.—I am induced to publish the two following cases because in their early stage they were very obscure:—

CASE I.—Mrs. J., aged 30, widow, slight and delicate, was seized suddenly, on December 10, 1858, with pains in the right side of the abdomen, which prevented her standing upright. On examination she was found somewhat feverish; pulse 90 to 100. A deep-seated hard swelling could be felt in the right iliac region. A few leeches were applied over the seat of pain, and afterwards hot fomentation. Minute doses of mercurial powder were given. In a few days the tumour began to recede, at first slowly, afterwards rapidly. Iodide of iron was then given, and the tumour painted with tincture of iodine. Being now convalescent, she went to Dublin; and, having there used imprudent exertion, the tumour returned, and I learned that it went on to suppuration, entailing on her a tedious illness.

CASE II.—Mr. W., commercial traveller, aged 40, has been living freely. On the 15th April, 1859, he applied to me, complaining of severe pains in the abdomen, particularly on the right side, and a sensation as if the contents of the abdomen were falling out. The belly was unusually resisting to pressure, particularly on the right side, where there was dulness on percussion. He was ordered a dose of blue pill and henbane. In the evening I was sent for to his hotel, as he was much worse. The pain was very severe; tongue foul; pulse 76. To have ten grains of calomel and two grains of opium at bed-time, and a dose of castor-oil in the morning.

16th. Bowels moved several times; motions dark and offensive; still much pain. In the evening a distinct fulness was perceptible in the right ileo-lumbar region, reaching almost to the ribs, tense, and very painful on pressure. Twelve leeches, followed by linseed-meal poultices, to be applied to the affected part; an opiate at bed-time.

17th. Pains much relieved. Some diarrhœa, with much griping; gums slightly affected. To have iodide of potassium, and morphia when the griping is troublesome.

18th. Swelling less painful, and beginning to diminish. Six leeches to be applied, and poultices to be continued.

20th. Continuing to improve; tumour diminishing; bowels still loose, but discharges more natural.

25th. Swelling nearly gone. He is leaving town. Was recommended to paint the part with iodine, and to take syrup of the iodide of iron.

I afterwards learned that his recovery was complete.

Paralysis after Delivery.—Mrs. C., aged 24, was confined on the 18th April, 1859; easy labour. Had suffered much from ill health during pregnancy, and was pale and anemic. After her confinement the pulse continued at about 108, but she had no other bad symptom. On the tenth day after her confinement she was on the sofa, and had a bowl of broth, when she suddenly became ill. On being visited in half an hour after, she was pale; pulse 70, quiet. She could articulate with difficulty; tongue protruded to the right side. Complains of pains in the left temple, and numbness on that side of the face and in the right arm and leg. There is no twisting of the

face. Ordered to be kept quiet, and to have half a drachm of aromatic spirit of ammonia every third hour.

28th. Is in much the same state. Urine very scanty, with deposit of lithates; bowels confined. To have compound colocynth pill at bed-time, ten minims of tincture of muriate of iron, and five minims of wine of colchicum, every third hour.

30th. Speech is considerably improved; headach gone; is on the sofa.

May 1st. Continues to improve. To have citrate of iron and quina.

18th. Is now nearly well; complaining only of slight numbness in two fingers of the right hand.

Her recovery was ultimately complete.

Remarks.—I have recorded this case as illustrative of a class in which the routine treatment of paralysis would be highly dangerous. One every now and then meets with similar cases in hysterical and anemic females, in which it may be difficult to state what is the exact cause of the paralysis, except that it is probably connected with insufficient nutrition, though it may also depend on the retention of some noxious matter in the blood. The principles of treatment are obvious enough when one has got disabused of the idea that paralysis and plethora necessarily go together. In the case above narrated colchicum was given, with a view to its action in promoting the secretion of urea.

Statistics of Urinary Calculi in Hungary. By Professor Balassa, of Pesth.

During twelve years' tenure of office, 135 persons labouring under calculous affections presented themselves for treatment at the Surgical Clinique in Pesth. Of these, there were between the ages of one and seven, 21, or 15·556 per cent.; between eight and fifteen, 32, or 23·703 per cent.; between sixteen and twenty-five, 47, or 34·815 per cent.; between twenty-six and fifty, 27, or 20·000 per cent.; between fifty-one and sixty, 6, or 4·444 per cent.; between sixty-one and seventy, 2, or 1·482 per cent.

Classified according to their occupation, there were among the patients, husbandmen, 82, or 60·741 per cent.; mechanics, 39, or 28·889 per cent.; shopkeepers, 7, or 5·186 per cent.; persons holding official situations, 2, or 1·482 per cent.; landed proprietors, 2, or 1·482 per cent.; students, 2, or 1·482 per cent.; teachers, 1, or 0·738 per cent. It was, therefore, chiefly among youthful individuals (100 were under twenty-six years of age) that the affection had occurred, and as at the same time (from 1843 to 1855) not fewer than 49 calculous patients had been under treatment in the Children's Hospital at Pesth, it follows that in Hungary urinary calculi are met with most frequently in childhood and youth. But, as the disease occurs most commonly among agricultural labourers (82 times), and

is likewise very often observed among mechanics (39 times), it must be admitted that it is, comparatively speaking, a disease of the less affluent classes,—a fact which is further confirmed by the statistical tables of Dr. Iványchich. The cause of this is to be found in the food, which among children of poor parents consists of coarse meal, dry pulse, cabbage, potatoes, fat pork, and bacon, that is, in substances rich in compounds of carbon and difficult of solution. The author operated on 122 of the 135 patients, and possesses the calculi of 83. Of these, which were examined by Moriz Say, Assistant to the Chair of Chemistry in Pesth, 63 exhibited a homogeneous composition throughout; in 19 the nucleus differed in constitution from the body; and in one the external layer again differed from the rest of the body. Of the 63 whose composition was homogeneous, the principal ingredient was, in 20, oxalate of lime; in 13, ammoniaco-magnesian phosphate; in 8, uric acid; in 7, urate of ammonia; in 7, a mixture of basic phosphate of lime and ammoniaco-magnesian phosphate; in 6, basic phosphate of lime; and in 2, carbonate of lime. Of the 20 nuclei which differed from the bodies, the principal ingredient was, in 12, oxalate of lime; in 6, urate of ammonia; in 2, uric acid. Of the 20 bodies surrounding these nuclei, 9 contained as principal constituent ammoniaco-magnesian phosphate; 8, a mixture of this latter with basic phosphate of lime; 2, basic phosphate of lime; 1, carbonate of lime. A single nucleus was surrounded by a dissimilar body, the outer layer of which possessed nearly the composition of the nucleus, and contained only a small admixture of the ingredients of the inner layers. Albuminoid matters were found in 27 calculi. In 2 calculi, consisting chiefly of oxalate of lime, some silicic acid was found in the form of a fine white sand. 20 calculi of more homogeneous composition presented in 12 cases a nucleus consisting of oxalate of lime, while the body of the stone contained none of that substance. On the other hand, in 19 instances basic phosphate of lime, ammoniaco-magnesian phosphate, or a mixture of both, appeared to be the material composing the body, while none of these salts formed any part of the nucleus. Carbonate of lime was found 15 times in the calculi; in these it appeared only once in the outer layer, and not once in the nucleus of the stone. Uric acid occurred in 72 calculi, but only 23 times did it constitute the principal ingredient, while oxalate of lime was the most frequent principal ingredient, as in 20 calculi it formed the chief mass, and in 12 composed the nucleus.

Hence the author infers: 1. That in Hungary the formation of calculus occurs most frequently in consequence of the richness of the urine in oxalates, to which the carbonaceous material in the bad food contributes. 2. That while the cause of the original formation of urinary calculi lies in the richness of the urine in oxalates and urates, the increase of the already existing calculus may indeed be derived from the phosphates contained in the urine, but cannot originally depend upon them, as in more than half the cases (45) a disproportionately large amount of phosphate is found in the calculi. Hence the problem of preventing the original formation and renew-

ing of urinary calculi must be solved by acting on the oxalates and urates. Vesical catarrh has no influence on the origin of oxalic and uric calculi, while phosphatic calculi are always attended with a high degree of it. The author cannot decide whether the distoma hæmatobium contributes to the origin of urinary calculi in Hungary, as is the case in Egypt. He further observes that the oxalic calculi in his collection are for the most part roundish and mulberry-shaped, of brown colour, very heavy, dense, and laminated; while the uric calculi are longish, roundish, flattened, smooth, brighter-coloured, lighter, and for the most part laminated. The phosphatic calculi, on the other hand, are spherical or cylindrical, and appear to be of more uniform structure, soft and light.—*Vierteljahrschrift für die praktische Heilkunde*, Band 62, part 2, page 64.

Case of Sudden Death caused by a Needle penetrating the Pericardium
By C. Soverini. (Read before the Accademia delle Scienze dell Istituto di Bologna.)

The author prefaces the history of the case by referring, for the sake of the comparison, to one of sudden death from rupture of the heart, detailed to the Academy by Professor Medici in 1835, and to a paper by the President, Professor A. Alessandrini, on some organic degenerations observed in the hearts of cattle in 1841, and which were caused by pins swallowed with the food.

Paolo Guidi, a robust porter, aged 37, having been accustomed to keep needles in the breast of his shirt, it seems probable that, without perceiving it, while he was hastily dining, he swallowed one which had accidentally fallen into his food. In fact, for some days after, he felt slight pain in the throat, and subsequently great weakness and general uneasiness. Disregarding these symptoms, which were unusual to him, he attempted, on the 26th of May, to carry a heavy load, which brought on sudden and serious deliquium. He was without delay conveyed to hospital, when it was found that he was cold as marble; there was extreme pallor, the pulse was imperceptible, the respiration was very weak, the cardiac sounds were inaudible; there was loss of sensation and motion.

After lying on his back for three hours, during which time everything was done to restore him, he recovered to a slight degree the power of sensation and motion; but complained of a feeling of oppression in the throat, where nothing wrong could be discovered. Suitable treatment having been adopted to remove the depression, of which the true cause was unknown, decided febrile reaction set in on the 28th, and was combated by the author, after he had examined the chest by percussion and auscultation, with antiphlogistic measures persevered in during two days. The patient considered that he was cured, and he even felt so strong and active that he was speaking to his relatives and making preparations for shortly leaving the hospital, and, having sat down on the bed, he took leave of them cheerfully, when, falling again nearly into the horizontal posture, he suddenly expired without saying a word or moving a limb.

After the lapse of twenty-six hours, the body was examined by the author. The countenance preserved the placidity of the last moment. On opening the chest, the most striking phenomenon was that presented by the pericardium, which projected above the level of the lungs, appearing like a large and swollen bladder, of a dark red colour. On cutting this, a large quantity of blood (four and a half pounds), for the most part coagulated, but still partly fluid escaped. On seeking for the cause of this effusion, a large sewing needle, upwards of an inch and half (four centimètres) in length, was found. This was fixed in the posterior and right part of the pericardium, at the distance of about half an inch from the arch of the diaphragm, the pointed half being found within the sac of the pericardium buried in the grumous blood, while the half corresponding to the eye occupied the cavity of the pleura, between the lung and the serous coat of the pericardium, the direction being from behind forwards, and from below upwards. Notwithstanding the presence of the needle, the two membranes of the pericardium exhibited no deviation from their ordinary physiological state. The heart, contracted on itself, pale and void of blood, presented externally on the posterior surface of the right ventricle a laceration, which for a few lines below the base passed towards the apex of the same ventricle, running nearly parallel to the anterior or inferior angle of the heart, from which it was distant about a quarter of an inch. This laceration, which was of an irregular figure from the superior to its inferior point, measured, on tracing its curvilinear course with a wire, about three-quarters of an inch; from the left point to the opposite it measured only one-fifth more. The laceration implicated only the exocardium, the superficial layer of muscular fibres of the right ventricle, and the coronary vessels running therefrom; in particular, the two branches of the right coronary artery, and the two adjoining veins. There was no doubt that the patient's sudden death was attributable to the copious effusion of blood in the sac of the pericardium caused by this laceration, which was certainly produced by the needle found after death; inasmuch as the other neighbouring parts, and those belonging to respiration, were in a natural state, with the exception of a slight degree of abnormal redness in the mucous membrane of the lower part of the pharynx, of the œsophagus, of the fundus of the stomach, and in one of the inferior loops of the small intestine.

Having recapitulated the foregoing particulars, the author concludes, that needles swallowed in greater or less number may during a long course of years remain in the body, giving rise to many and various inconveniences without destroying the life of the individual, until they are either eliminated by the natural passages, or reach a situation whence they can be extracted by art, as Daunio, Petit, Vallisnieri, Villars, Silvy, and Ferrario have recorded; a single needle swallowed, in like manner, may, on the other hand, lead in a short time to certain and inevitable death, as the case just related clearly demonstrates.—*Bulletino delle Scienze Mediche di Bologna*, April, 1859, p. 302.

INDEX

TO THE TWENTY-EIGHTH VOLUME.

The Letters C. M. & S. S. refer to to the Cork Medical and Surgical Society: and B. M. S. to the Belfast Medical Society.

Aberdeen, report of the royal lunatic asylum of, *Rev.*, 392.
Abscess, pelvic, Dr. Wallace on, 500.
Ague, report on, for 1858, by Dr. Cummins, C. M. & S. S., 250.
Albumen, on action of pancreatic juice on, by Dr. Brinton, 194.
Althaus, Dr., on medical electricity, *Rev.*, 422.
American journal of insanity, *Rev.*, 378.
Amputations from the mutiny in India, Dr. Williamson on, 70.
Anæsthetics, Mr. Spencer Wells on the use of, in ovariotomy, 288.
Aneurism, Mr. S. A Cusack on the treatment of, by compression, 332; popliteal, Dr. Murney on, B. M. S., 485.
Anthrax, incisions in, Mr. Collis on, 205.
Arlidge, Dr., on the state of lunacy and the legal provision for the insane, *Rev.*, 374.
Asylum, Londonderry district lunatic, report of the, *Rev.*, 382; Mullingar lunatic, report of the, *Rev.*, 383; Wilts county, eighth report of the, *Rev.*, 387; Worcester pauper lunatic, report of the, *Rev.*, 388; Abington abbey, statistical report of cases of insanity treated in, *Rev.*, 389; royal Edinburgh, report of, *Rev.*, 390; Aberdeen, report of, *Rev.*, 392; James Murray's royal, for lunatics, near Perth, report of, *Rev.*, 393.
Asylum quarterly journal of mental science, *Rev.*, 371.
Asylums, Dr. Arlidge on the construction and organization of, *Rev.*, 374.
Asylums, lunatic, in Ireland, ninth report of the inspectors on, *Rev.*, 343; private lunatic, Dr. Seymour's letter to the Earl of Shaftesbury on the laws which regulate, *Rev.*, 380.
Atrophy, acute yellow, of the liver, Dr. Wallmann's case of, *Trans.*, 256.

Balassa, Professor, on the statistics of urinary calculi in Hungary, *Trans.*, 501.
Bands, fibrous, of the pericardium, Professor Luschka on, *Trans.*, 253.
Barnes, Dr., report of the London Maternity Charity, 99; on mortality in child-birth, 103.
Barreswil's test solution, formula for, 163.
Bayonet wounds, Dr. Williamson on, 68.
Belfast district hospital for the insane, report of the, by Dr. Stewart, *Rev.*, 384.
Belfast medical society, transactions of the, 469.
Berkeley, Dr., report of the Mullingar asylum for the insane poor, by, *Rev.*, 383.
Bladder, irritable, Mr. Gant on, *Rev.*, 230.

Blood, some observations on the coagulation of the, by Dr. Davy, *Rev.*, 425.
Brain, case of chronic inflammation of, with tubercular tumour, by Dr. Woods, 22; tables for the diagnosis of diseases of the, by Dr. Reynolds, *Rev.*, 382.
Braun, Dr., on the uremic convulsions of pregnancy, *Rev.*, 225.
Brierre de Boismont, Dr., on hallucinations, translated by Dr. Hulme, *Rev.*, 377.
Bright's disease, case of, by Dr. Woods, 19.
Brinton, Dr., on the action of the pancreatic juice on albumen, 194; on the diseases of the stomach, *Rev.*, 398
Browne, Dr., report of the Crichton royal institution for lunatics, by, *Rev.*, 396.
Browne, Mr., on dry gangrene, B. M. S., 486.
Bucknill, Dr., asylum quarterly journal of mental science, edited by, *Rev.*, 371.
Burns, Dr., life, its relations, animal and mental, by *Rev.*, 375.

Calculi, urinary, Professor Balassa on the statistics of, in Hungary, *Trans.*, 501.
Cancerous degeneration, case of, by Dr. Woods, 24.
Cases from practice, by Dr. Wallace, 498.
Cerebro-spinal symptomatology of worms, Dr. Heslop on the, 133.
Chest, Dr. Fraser on penetrating wounds of, *Rev.*, 447.
Childbirth, mortality in, Dr. Barnes on, 103.
Children, Diday on syphilis in newborn, translated by Dr. Whitley, new Sydenham society's edition, *Rev.*, 456.
Chloroform, Dr. Heyerdahl on the use of, in midwifery, *Rev.*, 244.
Christiania, discussions on state medicine in, *Rev.*, 244.
Chronic inflammation of the brain, case of, 22.
Classification of mental disorders, 376.
Clavicle, case of fracture of the, between the coraco-clavicular ligaments, by Professor Gordon, B. M. S., 478; treatment of fractures of the, 480.
Clinical cases in surgical practice, by Mr. O'Doherty, 185.
Coagulation of the blood, some observations on the, by Dr. Davy, *Rev.*, 425.
Collis, Mr., on incisions in anthrax, 205.
Commissioners in lunacy, the thirteenth report of the, *Rev.*, 352; for Scotland, first report of the, 356.
Committee, select, on lunatics, report from the, *Rev.*, 360.
Compression, Mr. S. A. Cusack on the treatment of aneurism by, 332.
Constants, natural, of the healthy urine in man, Professor Haughton on, 1.
Convulsions, uremic, of pregnancy, Dr. Braun on, *Rev.*, 225.
Cork medical and surgical society, transactions of the, 248.
Cornea, congenital opacity of the, Mr. Richardson on, 322.
Craniotomy, cases of, by Dr. Barnes, 106.
Cremen, Dr., report on exanthemata for 1858, C. M. & S. S., 249,
Crichton, royal institution for lunatics, report of the, *Rev.*, 396.
Cummins, Dr., case of labour during typhus, by, C. M. & S. S., 248; report on ague for 1858, 250.
Cusack, Mr. S. A., on the treatment of aneurism by compression, 332.
Cutaneous diseases, Dr. A. Holst's report on the treatment of, *Rev.*, 431.

Dalton, Dr., a treatise on human physiology, by, *Rev.*, 409.
Davy, Dr., some observations on the coagulation of the blood, by, *Rev.*, 425.
"De lunatico inquirendo," Dr. Seymour's comparison of, with the law of "interdiction" in France, *Rev.*, 380.

Degeneration, cancerous, case of, by Dr. Woods, 24.
Delivery, Professor Faye on premature, *Rev.*, 247; paralysis after, Dr. Wallace on, 500.
Dental surgery, Mr. Tomes' system of, *Rev.*, 233.
Diabetic sugar in the animal economy, Dr. M'Donnell on the physiology of, 160.
Diday, P., on syphilis in new-born children, translated by Dr. Whitley, *Rev.* 456.
Diphtheria, New Sydenham Society's memoirs on, *Rev.*, 238.
Diseases, of the brain, tables for the diagnosis of, by Dr. Reynolds, *Rev.*, 382; of the stomach, Dr. Brinton on, *Rev.*, 398; epidemic, in Sweden in 1857, Dr. Wistrand on, *Rev.*, 428; cutaneous, report on the treatment of, by Dr. A. Holst, *Rev.*, 431; peculiar to women, Gooch on the, *Rev.*, 454.
Druitt, Dr. R., the surgeon's vade mecum, by, *Rev.*, 467.
Duncan, Dr. Matthews, on the mechanical function of the os sacrum, *referred to*, 230.

Ecraseur, resection of a portion of the tongue with the, 190.
Edinburgh, royal asylum for the insane, report of, *Rev.*, 390.
Electricity, medical, Dr. Althaus on, *Rev.*, 422.
Embryotomy, Professor Faye on, *Rev.*, 247; Dr. Heyerdahl on a new instrument for, *Rev.*, 247.
Empyema, Mr. Smyly on thoracentesis in, 199.
Epidemic diseases in Sweden in 1857, Dr. Wistrand on, *Rev.*, 428.
Epidemic of small-pox in Sweden in 1847-1855, Dr. Wistrand on the, *Rev.*, 429.
Ewart, Dr., on the vital statistics of the troops in India, *Rev.*, 451.
Exanthemata, report on, for 1858, by Dr. Cremen, C. M. & S. S., 249.
Excision of the lower jaw, case of, by Mr. Richardson, 315.
Excisions of joints in India, Dr. Williamson on, 79.
Eye, foreign bodies in the, Mr. Richardson on, 319.

Faye, Professor, on the diagnosis and treatment of puerperal fever, *Rev.*, 244; on embryotomy, *Rev.*, 247.
Fehling's test solution, formula for, 163.
Femoral hernia, strangulated, Dr. Wilmot on, 298.
Femur, case of oblique fracture of the, by Mr. Kelly, 492.
Ferguson, Dr., prefatory essay to the new Sydenham society's edition of Gooch on the diseases peculiar to women, by, *Rev.*, 454.
Fever, puerperal, cases of, by Dr. Barnes, 114; Professor Faye on the diagnosis and treatment of, *Rev.*, 244; Dr. Wallace on the use of iron in, 498.
Forceps delivery, cases of, by Dr. Barnes, 112.
Foreign bodies in the eye, Mr. Richardson on, 319.
Forensic medicine, findings in, by Dr. Wistrand, *Rev.*, 429.
Fracture of the clavicle between the coraco-clavicular ligaments, case of, by Professor Gordon, B. M. S., 478; of the clavicle, treatment of, 480; of the lower end of the radius, 482; oblique, of the femur, case of, by Mr. Kelly, 492.
Fraser, Dr., on penetrating wounds of the chest, *Rev.*, 447.
Fungus, syphilitic, of the testicle, Mr. West on, 323.

Gangrene, dry, Mr. Browne on, B. M. S., 486.
Gant, Mr., on irritable bladder, *Rev.*, 230.
Glottis, œdema of the, case of, by Dr. Woods, 23.
Gooch on the diseases peculiar to women, with prefatory essay, by Dr. Ferguson, *Rev.*, 454.
Gordon, Professor, case of fracture of the clavicle between the coraco-clavicular ligaments, by, B. M. S., 478; on fracture of the lower end of the radius, 482.

Gross, Dr., system of surgery by, *Rev.*, 468.
Gunshot wounds, Dr. Williamson on, 27; of the upper extremities, 27; of the lower extremities, 36; with direct penetration or perforation of the larger joints, 56; with direct injury of the large nerves, 66.

Habits during sleep, Dr. Osborne on, 120; when awake, 123.
Hallucinations, Dr. Brierre de Boismont on, translated by Mr. Hulme, *Rev.*, 377.
Harkin, Dr., on mastitis, B. M. S., 469.
Haughton, Rev S., on the natural constants of the healthy urine of man, 1; rule for the quantitative determination of urea in healthy urine, by, 9.
Heart, polypus of, case of death from, by Dr. Woods, 23.
Hemorrhage, cases of labour complicated with, by Dr. Purefoy, 307.
Hernia, strangulated femoral, Dr. Wilmot on, 298.
Heslop, Dr., on the cerebro-spinal symptomatology of worms, 133.
Heyerdahl, Dr. Valentin, on a new instrument for embryotomy, *Rev.*, 244; on the use of chloroform in midwifery, *Rev.*, 244.
Holst, Dr. A., report on the treatment of cutaneous diseases by, *Rev.*, 431.
Hospital, Belfast district, for the insane poor, report of the, *Rev.*, 384; Pennsylvania, for the insane, report of the, 397.
Hospitals for the insane, reports on, *Rev.*, 341.
Hulme, Mr., translation of Dr. Brierre de Boismont on hallucinations, by, *Rev.*, 377.
Hungary, statistics of urinary calculi in, by Professor Balassa, *Trans.*, 501.
Hydrocephalus, cases of, by Dr. Woods, 22.

Incisions in anthrax, Mr. Collis on, 205.
India, Dr. Williamson on gunshot wounds from the mutiny in, 27; excisions of joints in, Dr. Williamson on, 79; Dr. Ewart on the vital statistics of the troops in, *Rev.*, 451.
Infants at the breast, Diday on syphilis in, *Rev.*, 456.
Inflammation, H. Snellen on the influence of the nerves on, *Rev.*, 449.
Insane, hospitals for the, reports on, *Rev.*, 341; Dr. Arlidge on the legal provision for the, *Rev.*, 374; Pennsylvania hospital for the, report of the, *Rev.*, 397.
Insanity, and hospitals for the insane, reports on, *Rev.*, 341; American journal of, *Rev.*, 378; statistical report of cases of, treated in Abington abbey asylum, *Rev.*, 389.
Institutes of medicine, Dr. Payne on the, *Rev.*, 432.
"Interdiction," the law of, in France, Dr. Seymour on, *Rev.*, 380.
Intra-uterine periostitis, with necrosis of the tibia, Mr. Richardson on, 321.
Ireland, lunatic poor in, a bill to amend the law relating to the, *Rev.*, 359.
Iris, congenital, adhesion of the, case of, by Mr. Richardson, 322.
Iron, Dr. Wallace on the use of, in puerperal fever, 498.
Irritable bladder, Mr. Gant on, *Rev.*, 230.

Jamieson, Dr., report of the royal lunatic asylum of Aberdeen, by, *Rev.*, 392.
Jaw, excision of the lower, case of, by Mr. Richardson, 315.
Journal, asylum quarterly, of mental science, *Rev.*, 371; American, of insanity, *Rev.*, 378.
Journal of psychological medicine and mental pathology, *Rev.*, 364.

Kelly, Mr., case of oblique fracture of the femur by, 492.
Kidneys, Bright's disease of the, case of, by Dr. Woods, 19.

Kirkbride, Dr., report of the Pennsylvania hospital for the insane, by, *Rev.*, 397.

Labour, case of, during typhus, by Dr. Cummins, C. M. & S. S., 248; cases of, complicated with hemorrhage, by Dr. Purefoy, 307.
Lance wounds, Dr. Williamson on, 67.
Letter to the Earl of Shaftesbury on the laws which regulate private lunatic asylums, by Dr. Seymour, *Rev.*, 380.
Lever splint, use of, in oblique fracture of the femur, by Mr. Kelly, 492.
Life, its relations, animal and mental, by Dr. Burns, *Rev.*, 375.
Liver, acute yellow atrophy of the, Dr. Wallmann on, *Trans.*, 256.
London maternity charity, Dr. Barnes' report of the, 99.
Londonderry district asylum for lunatic poor, report of the, by Dr. Rogan, *Rev.*, 382.
Lunacy, thirteenth report of the commissioners in, *Rev.*, 352; first report of the commissioners in, for Scotland, *Rev.*, 356; Dr. Arlidge on the state of, and on the legal provision for the insane, *Rev.*, 374.
Lunatic asylums in Ireland, ninth report of the inspectors on the, *Rev.* 343.
Lunatic asylums, private, Dr. Seymour's letter to the Earl of Shaftesbury on the laws which regulate, *Rev.*, 380.
Lunatic poor in Ireland, bill to amend the law relating to the, *Rev.*, 359.
Lunatics, report from the select committee on, *Rev.*, 360; Crichton royal institution for, *Rev.*, 396.
Lupus, case of, by Dr. Woods, 20.
Luschka, Professor, on the fibrous bands of the pericardium, *Trans.*, 253.

M'Cormac, Dr., on some features of what is termed "revivalism," B. M. S., 474.
M'Donnell, Dr. Robert, on the physiology of diabetic sugar in the animal economy, 160.
Mastitis, Dr. Harkin on, B. M. S., 469.
Maternity charity, Dr. Barnes' report of the London, 99.
Medicine, institutes of, Dr. Payne on the, *Rev.*, 432.
Mental disorders, Dr. Robinson on the prevention and treatment of, *Rev.*, 376; classification of, 376.
Mental pathology, journal of psychological medicine and, *Rev.*, 364.
Mental science, asylum quarterly journal of, *Rev.*, 371.
Metatarsal bone, case of resection of the second, 186.
Midwifery, Dr. Heyerdahl on the use of chloroform in, *Rev.*, 244; cases in, by Dr. Purefoy, 307.
Mortality, in childbirth, Dr. Barnes on, 103; after ovariotomy, Mr. Spencer Wells on the means of diminishing the, 287.
Mullingar asylum for the insane poor, report of the, by Dr. Berkeley, *Rev.*, 383.
Murney, Dr., on popliteal aneurism, B. M. S., 485.
Muscles, voluntary, on the involuntary actions of, Dr. Osborne on, 120.

Necrosis and separation of the upper epiphysis of the tibia, Mr. Richardson on, 321.
Nerves, H. Snellen on the influence of, on inflammation, *Rev.*, 449.

O'Doherty, Mr., clinical cases in surgical practice, by, 185.
Ophthalmia, scrofulous, case of, by Dr. Woods, 25.
Osborne, Dr., on involuntary actions of voluntary muscles, 120.
Os sacrum, Dr. Matthews Duncan on the mechanical function of the, *referred to*, 230.
Ovariotomy, Mr. Spencer Wells on, 257; remarks on the means of diminishing the mortality after, 287; trocar used in, 290; after treatment, 294.

Pancreatic juice, on the action of, on albumen, by Dr. Brinton, 194.
Paralysis after delivery, Dr. Wallace on, 500.
Parsonstown workhouse infirmary, report of cases in, by Dr. Woods, 17.
Pathological researches, by Mr. Richardson, 315.
Payne, Dr., on the institutes of medicine, *Rev.*, 432.
Pelvic abscess, Dr. Wallace on, 500.
Penetrating wounds of the chest, Dr. Fraser on, *Rev.*, 447.
Pennsylvania hospital for the insane, report of the, *Rev.*, 397.
Pericardium, fibrous bands of the, Professor Luschka on the, *Trans.*, 253; sudden death caused by a needle penetrating the, by C. Soverini, *Trans.*, 503.
Periostitis, intra-uterine, Mr. Richardson on, 321.
Perth royal lunatic asylum, report of, *Rev.*, 393.
Phosphoric acid, daily discharge of, in healthy urine of man, 12.
Physiology, human, Dr. Dalton's treatise on, *Rev.*, 409.
Polypus of heart, case of death from, by Dr. Woods, 23.
Poor, lunatic, in Ireland, bill to amend the law relating to the, *Rev.*, 359.
Popliteal aneurism, Dr. Murney on, B. M. S., 485.
Pregnancy, Dr. Braun on the uremic convulsions of, *Rev.*, 225.
Premature delivery, Professor Faye on, *Rev.*, 247.
Prichard, Dr., statistical report of cases of insanity treated in Abington abbey asylum, by, *Rev.*, 389.
Prolapsus ani, case of, by Dr. Woods, 18.
Prostitution, Dr. Sanger on, *Rev.*, 207.
Psychological medicine and mental pathology, journal of, *Rev.*, 364.
Puerperal fever, cases of, by Dr. Barnes, 114; Professor Faye on the diagnosis and treatment of, *Rev.*, 244; Dr. Wallace on the use of iron in, 498.
Purefoy, Dr., cases in midwifery by, 307.

Radius, Professor Gordon on fracture of the lower end of the, B. M. S., 482.
Reports on insanity and hospitals for the insane, *Rev.*, 341.
Resection of the second metatarsal bone, case of, 186; of a portion of the tongue, with the écraseur, 190.
Respiratory therapeutics, Dr. Sales Girons on, *Trans.*, 251.
Revivalism, Dr. M'Cormac on, B. M. S., 474.
Reynolds, Dr., tables for the diagnosis of diseases of the brain by, *Rev.*, 382.
Richardson, Mr., pathological researches by, 315.
Robinson, Dr., on the prevention and treatment of mental disorders, *Rev.*, 376.
Rogan, Dr., report of the Londonderry district asylum for lunatic poor, by, *Rev.*, 382.

Sales Girons, Dr., on respiratory therapeutics, *Trans.*, 251.
Sanger, Dr., on prostitution, *Rev.*, 207.
Scandinavian medical literature, reviews of recent, 244, 427.
Scotland, first report of the commissioners in lunacy for, *Rev.*, 356.
Semple, Dr., memoirs on diphtheria, translated by, *Rev.*, 238.
Seymour, Dr., letter to the Earl of Shaftesbury by, on the laws which regulate private lunatic asylums, &c., *Rev.*, 380.
Shaftesbury, the Earl of, Dr. Seymour's letter to, on the laws which regulate private lunatic asylums, *Rev.*, 380.
Sherlock, Dr., report of the Worcester pauper lunatic asylum, by, *Rev.*, 388.
Skae, Dr., report of the royal Edinburgh asylum for the insane, *Rev.*, 390.
Sleep, habits during, Dr. Osborne on, 120.

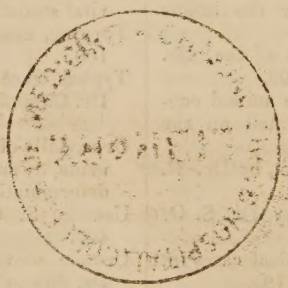
Small-pox, Dr. Wistrand on the epidemic of, in Sweden, 1847–1855, *Rev.*, 429.
Smyly, Mr., on thoracentesis in empyema, 199.
Snellen, H., on the influence of the nerves on inflammation, *Rev.*, 449.
Society, Cork Medical and Surgical, transactions of the, 248; Belfast medical, transactions of the, 469.
Soverini, C., on sudden death caused by a needle penetrating the pericardium, *Trans.*, 503.
Specific gravity of healthy urine, table of, 8.
State medicine, discussion on, in Christiania, *Rev.*, 244.
Statistics, vital, of the troops in India, Dr. Ewart on, *Rev.*, 451; of urinary calculi in Hungary, Prof. Balassa on, *Trans.*, 501.
Stewart, Dr., report of the Belfast district hospital for the insane poor, by, *Rev.*, 384.
Stomach, the diseases of the, Dr. Brinton on, *Rev.*, 398.
Sugar, diabetic, in the animal economy, Dr. M'Donnell on the physiology of, 160.
Surgeon's vade mecum, by Dr. R. Druitt, *Rev.*, 467.
Surgery, system of, by Dr. S. D. Gross, *Rev.*, 468.
Surgical practice, clinical cases in, by Mr. O'Doherty, 185.
Sweden, Dr. Wistrand on the diseases epidemic in, in 1857, *Rev.*, 428; on epidemics of small-pox in, *Rev.*, 429.
Sword and lance wounds, Dr. Williamson on, 67.
Sydenham society, the new, memoirs on diphtheria published by, *Rev.*, 238; Gooch on the diseases peculiar to women, published by, *Rev.*, 454; Diday on infantile syphilis, *Rev.*, 456.
Syphilis, contributions to the surgical history of, by Mr. West, 323; in new-born children, Diday on, translated by Dr. Whitley, *Rev.*, 456.
Syphilitic fungus of the testicle, Mr. West on, 323.
Tables for the diagnosis of diseases of the brain, by Dr. Reynolds, *Rev.*, 382.
Testicle, syphilitic, Mr. West on, 323.
Therapeutics, respiratory, Dr. Sales Girons on, 251.
Thoracentesis in empyema, Mr. Smyly on, 199.
Thurnam, Dr., eighth report of the Wilts county asylum, by, *Rev.*, 387.
Tomes, Mr., system of dental surgery, by, *Rev.*, 233.
Tongue, resection of a portion of the, with the écraseur, 190.
Transactions of the Cork medical and surgical society, 248; of the Belfast medical society, 469.
Trocar used in ovariotomy, 290.
Troilius, S. G., on uremia, *Rev.*, 427.
Troops in India, Dr. Ewart on the vital statistics of the, *Rev.*, 451.
Turning, cases of, by Dr. Barnes, 108.
Typhus, case of labour during, by Dr. Cummins, C.M. & S.S., 248.

Urea, daily discharge of, in healthy urine, 3; rule for the quantitative determination of, 9.
Uremia, S. G. Troilius on, *Rev.*, 427.
Uremic convulsions of pregnancy, Dr. Braun on, *Rev.*, 225.
Uric acid, daily discharge of, in healthy urine, 10.
Urinary calculi in Hungary, Professor Balassa on statistics of, *Trans.*, 501.
Urine, Professor Haughton on the natural constants of the healthy, 1; specific gravity of healthy, table of the, 8.

Vade mecum, the surgeon's, by Dr. Druitt, *Rev.*, 467.

Wallace, Dr., cases from practice by, 498.
Wallmann, Dr., on acute yellow atrophy of the liver, *Trans.*, 256.
Wells, Mr. Spencer, on ovariotomy, 257.

West, Mr., on syphilitic fungus of the testicle, 323.
Whitley, Dr., translation of Diday on infantile syphilis, new Sydenham society's edition, by, *Rev.*, 456.
Williamson, Dr., on gunshot wounds from the mutiny in India, 27.
Wilmot, Dr., on strangulated femoral hernia, 298.
Wilts county asylum, eighth report of the, by Dr. Thurnam, *Rev.*, 387.
Winslow, Dr. Forbes, journal of psychological medicine by, *Rev.*, 364.
Wistrand, Dr. A. Timoleon, on epidemic diseases in Sweden, *Rev.*, 428; on epidemic small-pox in the same, *Rev.*, 429; findings in forensic medicine, by, *Rev.*, 429.
Women, Gooch on some of the diseases peculiar to, new Sydenham society's edition, *Rev.*, 454.
Woods, Dr., report of cases in the Parsonstown workhouse infirmary, by, 17; on prolapsus ani, 18; on Bright's disease, 19; on lupus, 20; on chronic inflammation of the brain, with tubercular tumour, 22; on œdema of the glottis, 23.
Worcester pauper lunatic asylum, report of the, by Dr. Sherlock, *Rev.*, 388.
Worms, Dr. Heslop on the cerebro-spinal symptomatology of, 133.
Wounds, gunshot, from the mutiny in India, 27; sword and lance, 67; bayonet, 68; miscellaneous, 68; penetrating, of the chest, Dr. Fraser on, *Rev.*, 447.



END OF VOL. XXVIII.